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## Original Articles.

# ARTHRITIS DEFORMANS.[*]

## THE REPORT OF A SERIES OF ONE HUNDRED AND TEN CASES FROM THE JOHNS HOPKINS HOSPITAL.

(FROM THE CLINIC OF PROFESSOR OSLER.)

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There is no intention in this paper to make any attempt to discuss the many debatable points relative to arthritis deformans. There is, perhaps, no common disease in the calendar about which we have as little exact knowledge. Much misapprehension has been caused by the use of names which suggest that this disease has some association with rheumatism. Beginning with the very name to be given to it, we have great diversity of opinion, which continues through the etiology and pathology of the disease. Dr. Bradford[1] has recently described well the chaotic condition of our knowledge, or rather lack of it, and laid emphasis on the necessity of more careful study of the disease. We are to-day really proving the truth of words spoken by Haygarth in 1805, who said: "The term rheumatism has been applied without sufficient discrimination to a great variety of disorders, which, except pain, have but few symptoms that connect them together."

In the present paper a series of 110 cases which have occurred in the Johns Hopkins Hospital are reported. The clinical features will be especially discussed. A point of much importance is the relative frequency of the disease. With the present confusion of our knowledge of the disease, any statistical figures seem to possess but little value. As some of the cases here reported suggest strongly that one type of the disease is very commonly taken for acute articular rheumatism, and as probably one other form of the disease—spondylitis—has usually been overlooked, statistics are only likely to lead to false conclusions. It probably occurs less frequently than true articular rheumatism, but the difference in number may not be as great as we have usually thought.

One point to which special attention will be drawn is the study of early diagnosis. How much we can do to prevent the later manifestations of the disease by recognition and treatment of the early conditions is difficult to say. Certainly we are in a position to try, whereas by making a diagnosis only when the damage is done, treatment then can only be palliative.

### PATHOLOGY.

Of this we have but little accurate knowledge. With the etiologic feature unknown we can only discuss the morbid anatomy and not the pathologic basis. In the usual descriptions of the disease we have given only the later changes, many of which are degenerative. That the early acute conditions have received little attention is natural, for the material has been lacking. Patients rarely die of the disease, and certainly not in the early stages. Dr. White[2] has recently reported the result of an autopsy on a comparatively early case. It is to be hoped that no like opportunity for examination of such a case will be missed.

The two great views of the etiology—namely, the infective (either due to a specific organism or to a variety of organisms) and the neural—need not be discussed. The clinical features of this series seem rather to point toward an infective cause, although our cultural results have been negative.

Some writers suggest that under the term arthritis deformans we have really two diseases. Whether or not this be correct, we can distinguish two types of cases, one in which the bony changes, especially hypertrophy, predominate, often termed the "osteoarthritic," and the other in which the joint structures other than the bony parts are especially involved, sometimes termed "rheumatoid." These are usually distinctly different conditions. Do they represent different diseases, or are they varying manifestations of the same disease? The answer is difficult at present, but there seems little doubt of the co-existence of lesions of both types in some patients. Thus, in patients with spondylitis usually regarded as being "osteoarthritic" we may find involvement of other joints with the condition regarded as "rheumatoid."[3] Whether the same etiologic factor is active in both, it is at present impossible to say.

Some reference should be made to the association of arthritis deformans and rheumatism. Some writers describe arthritis deformans as coming on after acute rheumatism. The two diseases may have occurred in the same patient, but it is not any more likely than that rheumatism and gout should have done so. If we see a patient in successive attacks of acute polyarthritis which we regard as acute rheumatism, until he comes back, perhaps, with a tophus, do we say that gout has followed acute rheumatism? If we are honest, we frankly admit our error in mistaking the nature of the arthritis. Why not the same in regard to arthritis deformans? When a patient comes with undoubted manifestations of this disease it seems more reasonable to consider previous acute attacks to have been of the same nature. The two diseases may have occurred in the same patient, but it seems more probable that the acute attacks were of arthritis deformans than acute rheumatism. The large number of cases to be noted later support this view. It seems most reasonable to hold that arthritis deformans is distinct from acute rheumatism.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

[1] American Medicine. 1902, iv, 17.

[2] Guy's Hospital Reports, lvii.

[3] The use of the term "rheumatoid" is to be regretted. Everything suggesting any association with rheumatism should, in my opinion, be eliminated. I have used the term "polyarticular" to designate the group in which these lesions especially occur.

For clinical study it is necessary to divide the cases, and in this report the following classes are used:

1. Heberden's nodes.
2. Polyarticular form (excluding the spondylitis cases, which are in one sense polyarticular).
3. Monarticular form.
4. Spondylitis.

It must be understood that the lines between these are not always definite. A patient with spondylitis or Heberden's nodes may have general polyarticular involvement, although this mixing of the types is not very common.

The statistics for the whole series will first be given, and afterward each group will be discussed in detail. That the present series gives any guide to the relative frequency of various groups is not probable. This is especially to be kept in mind in reference to the cases with local involvement of the spine. The cases of general spinal involvement offer but little difficulty in recognition, but we have only recently learned to recognize the other cases, and therefore their absence in the records of previous years has been due to non-recognition. These cases occur especially in males, and doubtless future records will show a more equal distribution between the sexes than previous ones have done. It will be seen that in this series the males and females are equal, rather unusual in any large series.

It may be noted that no cases with Heberden's nodes only are included in this series. Two cases of the so-called "Still's disease" are included in the polyarticular group. These cases are somewhat doubtful, but it seems most reasonable to consider them as arthritis deformans.

### GENERAL STATISTICS.

*Incidence.*—In the present series of 110 cases, 55 were males and 55 females. The white patients numbered 106, the colored only 4, 2 of whom were males and 2 females. The small number of colored patients with the disease is of considerable interest, especially in reference to the association of previous septic conditions as etiologic factors. The colored race is susceptible to the majority of infections, and especially gonorrhea. While in the hospital the proportion of white to colored is as about 7 to 1, the incidence of arthritis deformans is about 26 to 1. The negro is also apparently rather more prone to acute articular rheumatism, as has been elsewhere brought out,[4] the proportion in this clinic of white and colored with this disease being as 4.8 to 1.

*Conjugal Condition.*—Fifty-three of the patients were married, 41 single, and 16 were widows or widowers.

*Nationality.*—It is interesting to note the preponderance of the native-born. Ninety-six were born on this continent, and only 14 abroad. Of these, 8 were German, 2 Irish, 1 each English, Bohemian, Russian and Pole.

*Occupation.*—The largest number were engaged in housework of various kinds, namely, 47. Seven others were engaged in similar occupations, such as sewing, washing, etc. The next largest group comprised 24 cases; they were merchants, clerks, teachers, etc. There were 11 farmers and 10 engaged in laborers' and mechanics' work. The remainder were of no especial occupation. The proportion engaged in occupations involving special exposure to wet, damp, etc., is seen to be surprisingly small.

*Age.*—The age of patients on admission was as follows:

| | | | |
|---|---|---|---|
| 1 to 10 | 2 | 51 to 60 | 19 |
| 11 to 20 | 8 | 61 to 70 | 7 |
| 21 to 30 | 19 | 71 to 80 | 2 |
| 31 to 40 | 35 | 81 to 90 | 1 |
| 41 to 50 | 17 | | |

The youngest patient was aged 4 (a case of "Still's disease"), the oldest 83, with Heberden's nodes and some changes in other joints.

*Complaint.*—The complaints made by the patients were very various. By far the largest group (36) complained of "rheumatism"; 23 complained of general joint symptoms, pain, stiffness and swelling; 20 complained especially of the pain; 10 of stiffness of the back, and the remainder of various things—6 of loss of power in the legs and difficulty in walking; 3 of sciatica; 2 of neuritis, etc.

*Family History.*—The family history is of interest. The difficulty in obtaining an exact description of an arthritis in the family history is well known. There was a definite family history of arthritis in 44 cases. Of these, 10 were undoubtedly arthritis deformans, 22 were given as rheumatism, 1 as gout, and in 11 the nature was unknown. Endeavor was made to find out if the disease developed earlier in the patients who had a family history of arthritis than in the others. The results are given in tabular form:

| Age. | Age of onset with a family history of arthritis. | | Percentage. | General percentage of onset in all. |
|---|---|---|---|---|
| 1 to 10 | 7 | = | 16 | 11 |
| 11 to 20 | 10 | = | 23 | 20 |
| 21 to 30 | 9 | = | 21 | 20 |
| 31 to 40 | 7 | = | 16 | 22 |
| 41 to 50 | 4 | = | 9 | 9 |
| 51 to 60 | 4 | = | 9 | 12 |
| 61 to 70 | 2 | = | 5 | 3 |
| 71 to 80 | 0 | = | 0 | 2 |

One case was doubtful, and is not included in the first column, and two are doubtful in the second. The percentages are so nearly alike that no positive conclusion can be drawn, although the cases with a history of arthritis show a slightly larger percentage for the earlier decades. There was a family history of tuberculosis in 28 cases, and in 9 this was associated with arthritis.

*Previous History.*—Of the ordinary acute infections, measles is by far the most common, a history of it being obtained in 68 cases. Following this came whooping cough in 31, mumps in 20, scarlet fever and malaria each in 18, chicken-pox and influenza each in 13, typhoid fever in 10, pneumonia in 7, diphtheria in 5, smallpox and erysipelas in 2 each. Tonsillitis in recurring attacks was noted only in 3 cases. There was one instance each of otitis media, bronchitis, pleurisy and carbuncles. There was a previous history of gonorrhea obtained in only 14 cases, or about 13 per cent. This, it will be noted, is in striking contrast to the percentage of 40, given in Dr. Stewart's[5] Montreal statistics. There was a history of syphilis in 4 and of chancroid in 1. Dyspepsia had been a prominent feature in 3 cases, and dysentery or diarrhea in 2. Four patients gave a history of nervous prostration; 2 insisted especially on their severe mental strain and worry for some years; 1 of great physical hardship, and 2 of working in especially damp surroundings. In regard to this latter, attention should be drawn to its apparent rarity in this series, as so many of the writers lay great stress on its importance as an etiologic factor.

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[4] McCrae: The Journal A. M. A., Jan. 24, 1903.

[5] Stewart: Brit. Med. Jour., 1897, ii, p. 1225.

*Alcoholic History.*—Twenty-seven of the patients had used alcohol, 6 described as heavy drinkers, the remainder moderate. This is in striking contrast to the figures given in the series of gout cases reported from this clinic, where practically all were alcoholics.

*Pregnancy and Miscarriage.*—Twenty-six of the female patients had borne children, and seven had had miscarriages, varying in number from 1 to 4. Five patients had both borne children and had miscarriages.

*Onset.*—This was apparently associated with some condition in 28 cases. The patients, at any rate, thought there was some association. In 7 cases the onset was associated with exposure to cold and wet; in 3 each the onset was apparently associated with injury, diarrhea or dysentery, confinement, an attack of influenza, and an attack of measles; 2 followed closely after typhoid fever; and in 1 each it was associated with the following conditions: Very marked mental strain, constant physical strain, miscarriage and the menopause. The small number associated with exposure is to be noted. Our series of cases of acute rheumatism gave practically double the percentage. In one-half of all the cases the onset was before the age of 30, and in about one-third, before 20.

In the further study of the clinical types it is much more convenient to study each of the groups previously mentioned separately.

### GROUP I. HEBERDEN'S NODES.

This clinical group requires but little discussion. Generally accepted as undoubted manifestations of arthritis deformans, anatomically, this must be considered as usually belonging to the osteoarthritic type previously referred to. No figures as to the relative frequency of their occurrence can be given. There can be little doubt that the general idea that they are rarely associated with the more severe manifestations of the disease in other joints is substantially correct. In the present series, Heberden's nodes occurred in association with manifestations in other joints only nine times among the 94 polyarticular cases. Of these 9, in 4 the other manifestations were slight; in 3, moderate, and in 2, severe. They did not occur in association with any of the cases of spondylitis. As to the idea of Charcot that patients having these nodes were especially prone to cancer, I have no figures to offer. Certainly, one sees the association not infrequently. One point of interest in this group is the association of these lesions which we term "osteoarthritic," with those in other joints which are undoubtedly more of the "rheumatoid type." That this does occur there can be no question. It certainly speaks for a possible association of the two types.

Frankly, we have to confess that of accurate knowledge as to Heberden's nodes we have little. It can be summed up by saying that these bony outgrowths at the terminal phalangeal joints of the fingers rarely cause any troublesome symptoms, usually occur without the larger joints being involved, but may be associated with the other manifestations of the disease, although these cases are comparatively rare. In one particular they agree with the lesions in the other joints, namely, they are susceptible to injury. A blow on an affected joint is nearly always followed by some increase in the local symptoms, exactly as in the larger joints. Curiously enough, just as this was being written a patient came under observation with Heberden's nodes showing an unusual condition. She came on account of another disease. There was marked deformity of the terminal finger joints, and definite crepitus was obtained in some of them, an unusual thing in such cases in our experience.

### GROUP II. POLYARTICULAR CASES.

This comprises by far the largest number of cases in this series. There are 92, to which may be added 2 cases of "Still's disease," although in the tables these are kept separate. These cases and their clinical features show many variations, but an attempt will be made to classify them, at any rate to some extent. As already said, the changes are largely of the "periarticular" kind, and the bony changes are secondary.

*Onset.*—The ages at onset of these cases are shown in the following table:

| | | | |
|---|---|---|---|
| 1 to 10 | 11 | 41 to 50 | 10 |
| 11 to 20 | 17 | 51 to 60 | 11 |
| 21 to 30 | 18 | 61 to 70 | 2 |
| 31 to 40 | 22 | 71 to 80 | 1 |

*Method of Onset.*—This is of especial interest. On studying the cases, one finds two fairly definite kinds of onset can be recognized, namely, a sudden and a gradual beginning. Of the 92 cases in this group, the method of onset was doubtful in 6, in 45 it was gradual (in 31 of these several joints being involved together at the beginning, and in 14 one joint, others following some time later); in 41 cases the onset was sudden, in 19 of these in one joint, and in 21 in many joints about the same time. In one case the onset was in the joints of the neck. Especial attention is directed to the number of cases showing a sudden mode of onset. So many of the descriptions of the disease lead one to believe that the sudden onset is unusual, and that we see, ordinarily, a slow, gradually advancing arthritis. This point will be especially dealt with later. Of the 2 cases of "Still's disease," in 1 the onset was gradual in one joint, and in the other sudden in many joints.

*The Joint First Involved.*—This was as follows: 3, no definite history; 28, many joints involved; 3, the neck joint first involved; 5, the shoulders, 3 being only in one shoulder; 4, one arm; 1, an elbow; 3, a wrist; 1, a thumb; 1, a single finger; 1, both hands; 9, one hip; 10, one knee; 3, both knees; 1, knees and elbows both; 1, both ankles; 1, one ankle; 10, the feet; 3, the great toe; 2, other toes; 2, the joints of one leg.

*The Character of the Attacks.*—It is, of course, impossible in a disease such as this to definitely classify all the cases or the attacks. There is so much variation in the order of the joints involved, the character of the successive attacks, etc., that only an approximate classification is possible. Considering the course of the disease, perhaps three groups may be recognized. The first of these is the slow, progressive type, in which, after either an acute or a gradual onset, the symptoms slowly advance, joint after joint being involved. This may go on for a great many years. Of this class there are 44 cases. In sharp distinction comes the second class, those in which the attacks are acute and very commonly come on at intervals and at intervening times, perhaps for many years the patient may be practically free of any symptoms, although at length permanent damage is done. In certain of these cases the patient may apparently recover perfectly, or almost so, between the attacks, and it may be only after repeated acute attacks that permanent changes appear in the joints. To this class belong 29 cases. There is a third class which shows in some ways features of both the first and second groups; namely, in that they had acute attacks, but with these there was a steady progress, a certain amount of damage being left each time. In this class there were 12 cases. The remaining 7 cases it was impossible to classify.

Class 1. *The Slow Progressive Type.*—It is not necessary to spend time in describing these cases. Beginning either acutely or slowly in one or many joints, the process gradually advances, perhaps sometimes aggravated by accidental conditions, to a greater or less degree of deformity. Many joints are usually involved, the changes being rather in the periarticular structures than in the bony ones, the adjacent muscular structures showing a marked atrophy, deformities resulting, and at the last, a condition of more or less helplessness. A typical case may be briefly quoted:

No. 87.—B. K., white, male, age 40. He was admitted complaining of contraction of the legs and inability to walk. His family history was negative. The history of his present trouble was that twenty-eight years before he began to have pain in the left hip. This soon became stiff and he had difficulty in walking. After six weeks he noticed pain in the other hip, and for a time had much difficulty in walking. He then got about for a time, but always limped. Four or five months later he had a second attack and spent over a year in bed, without any acute symptoms. At the end of this time the knees gradually became involved. After some months he managed to get about, although always more or less stooped, having to walk with the hands on the knees. After a time he had to give this up and take to a wheel chair. The knees became gradually fixed, and for twenty-two years he has not been able to walk. A history in which there was never any acute attack, but only a slow continued progress.

This case, of course, showed involvement only of the lower extremities. A second case may be quoted:

No. 26.—O. F., white, female, aged 40. She was admitted complaining of pain and deformity of the joints. There was a history of arthritis on both sides of the family, and the mother has arthritis deformans. The previous history was negative. Fifteen years before, after a wetting, she complained of some pain in the left arm, which was thought to be rheumatism, was not severe, and did not last long. After this she was free of symptoms until ten years ago, when she began to have pain in the feet, especially after walking. There was no swelling, and the pain was not especially in the joints. At this time she began to notice some changes beginning in the finger joints. These gradually progressed, and for five years she had some general pains and deformity, especially of the feet and hands. During this time her general health varied. It was usually rather bad. She was very nervous. Five years ago her symptoms became very troublesome. The knees were involved, swollen and tender; pain appeared in the neck, and the temporomaxillary joint was involved. After this there was gradual swelling of the ankles, elbows and shoulders. For six months past she had pain and was almost helpless, requiring to have help in putting on her clothes, taking her meals and getting about. There was nothing acute in the symptoms at any time.

Such cases might be quoted at length, but to no purpose. The type is perfectly familiar.

Of the second group, namely, the acute, two illustrative cases may be quoted:

No. 48.—M. W., white, female, age 60. She was admitted complaining of rheumatism. She had a family history of arthritis. Her previous history was negative. At thirty-five she had an attack of acute arthritis, with swelling and pain in many joints. She was laid up in bed for two weeks. Afterward she apparently recovered completely. She had a second attack much like this at forty-five, after which she was practically well. The menopause occurred at fifty-three. Fifteen months ago she began to have pain in the great toe of the left foot. After this the knees, shoulders, elbows, wrists, and hands were all involved. The changes in the joints were more or less permanent, and she now has difficulty in getting about. She herself had noticed that the joints, although swollen and painful, were not red, and that she had no fever.

This is a fairly common history in these cases, recurring acute attacks leaving little damage, but finally permanent changes occurring. A second case in a boy of 13 may be quoted:

No. 53.—E. S., white male, age 13. He complained of swelling and pain in the feet and legs. His family and previous history were negative. His first attack of arthritis was at seven years. This lasted only for a short time, but was accompanied by severe pain. Following this he had eight or ten attacks, all acute, the first one lasting only three days. The one before admission had lasted for two months Between the earlier attacks he would be perfectly well in every way, but after the later ones it was noticed that a certain amount of stiffness persisted. The last attack was ten months before admission. He had gone to bed well. The next morning on rising he found both ankles so swollen that he could not get his boots on and he was unable to stand. Three months later the wrists became involved suddenly and remained so. On admission the involvement was in many joints.

Many histories of features much like these might be quoted, but it is unnecessary. They all serve to emphasize, however, the comparative frequency of this type of the disease. It is such histories that have suggested previous attacks of acute rheumatism as being common before the development of arthritis deformans. That all these attacks were of the one disease there seems little doubt. In the majority of these cases there is little difficulty in distinguishing them from acute rheumatism. This will be considered later in the section on diagnosis. But a point which seems worthy of emphasis is the frequency of these acute attacks. Nearly one-half of the cases of this group showed these acute manifestations at one time or other. Of the 32 cases in which there was a history of previous acute attacks after which they were practically free of symptoms, 14 had one such previous attack, 2 had two attacks, 4 three attacks, 4 four attacks, 2 five attacks, and 1 ten attacks.

There were 33 cases in which an intercurrent condition was thought to have determined the onset of another attack or further symptoms. In 8 this was an injury of some kind, usually to one joint, and followed at once by acute symptoms in it. Sometimes after this other joints followed. In 6 a wetting or exposure, in 5 an attack of dysentery or diarrhea seemed to have determined a fresh outbreak, in 2 an attack of influenza, in 2 confinement (repeated in successive pregnancies), in 2 a miscarriage, in 2 a marked shock, and in 1 each an attack of gonorrhea, an attack of measles, hot bathing, excessive fatigue, menstruation and a chancroid. Some of these may be only coincidence, but in the majority the association seemed definite.

## CONSIDERATION OF THE SYMPTOMS IN DETAIL.

In the discussion of these, especially the features pertaining to the joints, we have to keep in mind the more acute forms and the chronic deformities. With the latter especially we are familiar, and they require but little description. Along with these goes the muscular atrophy which is so common. To consider first the features in the joints:

*The Cervical Vertebræ.*—These require especial mention quite apart from the condition of spondylitis, because at some time or other in the polyarticular form it is not uncommon to have the neck involved. This was the case in 29 out of the 92 cases. This involvement we have often found to be transitory. There may for a time be pain complained of on moving, motion is much restricted, but on ordinary examination little is to be made out. Sometimes there is some deformity, the head being held definitely to one side. Judging from our cases, the condition is rarely permanent, many of the patients, especially in the acute attacks, having marked symptoms, which disappear completely as they improve. In very few of our cases has there been any permanent stiffness, apart, of course, from the cases of spondylitis.

*The Temporo-Maxillary Joint.*—This is involved comparatively frequently—in 22 cases of this series. Involvement is often unilateral and transient, but there may be all variations from this up to complete ankylosis, so that the patient may require to have teeth removed in order to be fed. This, however, has been rare in our cases. In the majority of instances there has been no permanent disability. In a few cases there was almost complete ankylosis and afterward fair recovery. One patient had teeth removed at one time, and later was able to open the mouth to a moderate extent. Involvement of this joint should be considered an important point in the diagnosis of a doubtful polyarthritis.

*The Sternal Clavicular Joint.*—This was involved in 6 instances. There was usually pain, sometimes slight swelling, and complaint of any motion involving the clavicle. It apparently is not a serious condition, and rarely causes any great discomfort.

*The Shoulder Joints.*—One or both shoulders were involved in 50 instances; of these, both shoulders in 39 cases; the right only in 8 cases; the left only in 3 cases.

In the acute attacks the patient usually complains of pain and limitation of motion, especially shown in attempts to raise the hand toward the head. It is very common to see them able to raise the hand to the level of the shoulder, but no higher. When the joint condition becomes more chronic there is usually the continuation of pain, some stiffness on handling, often definite limitation of motion, and very commonly crepitus. Fluid in the shoulder joints seems to be comparatively rare. Later there is often a certain amount of muscular atrophy of the shoulder girdle muscles, which, with the disability, often gives a very characteristic picture.

*The Elbow Joints.*—These were involved in 43 cases: Both elbows in 31 cases; the right only in 4 cases; the left only in 8 cases. In the acute attacks the elbow is usually held in a flexed position, there is often some swelling, and not infrequently a certain amount of involvement of the muscular tissues above and below the joint. This seems often more marked about the elbow than the other joints. In one case the elbow joint was opened during a moderately acute condition. The patient was thought to have gonorrheal arthritis. The muscles were found to be slightly edematous, and there was some fibrin between the muscle fibers. There were some small areas of hemorrhage. The joint contained some viscid yellow fluid. The synovial membrane showed hemorrhage and had a gelatinous appearance. In the later stages the joint may be fixed in flexion or partial flexion, but the thickening about the joints rarely advances to the extent that it often does about the knees.

*The Wrist Joints.*—These were involved in 46 cases: Both wrists in 36 cases; the right only in 5 cases; the left only in 5 cases. The changes in the wrists are often very characteristic. Only occasionally is there effusion into the joint (noted in one instance in this series), but there is often marked swelling above and below the joint, especially below. As a result of this the usual outlines of the wrist become completely lost. In the later stages we may find extreme polyarticular thickening and a certain loss of motion, although this is usually not so marked as at the elbow. Crepitus is very often obtained.

*The Hands.*—There was involvement of the metacarpal-phalangeal joints in 41 cases. The changes in these joints are usually very characteristic. In the acute attacks there may be a certain amount of redness, swelling and tenderness. As this subsides, a variable amount of thickening is left around the joints. In the later stages the thickening is permanent, mobility is lessened, there is usually flexion of the joints, and, not uncommonly, some subluxation. It is not uncommon to find some of these joints involved and others free. In six other cases of the series there is only a note that the hands were involved, which probably means these joints.

*The Fingers.*—These were involved in 52 cases. The thumbs were only involved in 7. The changes in the fingers were often very characteristic. In the acute attacks there may be but little visible change. There is some swelling and limitation of motion, but no great deformity. Subsequently, the thickening about the joints becomes more marked, and the typical "pod-shaped" or fusiform finger is produced. In the later stages we have a great variety of deformities. A common form is a flexion of the first phalanx with hyperextension of the terminal ones, but all the joints may be partially flexed, or only the terminal one be hyperextended. With this one may have also lateral deflection, especially of the terminal joint; and in some cases subluxation may result.

There are several features associated with the hands worthy of note. The patients are rarely able to "make a fist." There is very commonly ulnar deflection of all the fingers, which probably means only the position of greater ease. There are some other features which may possibly not be associated so much with the joints as with other structures. One of these is sudden weakness of the wrist joint, so that the patient drops articles which are being held. This is not an uncommon occurrence, sometimes happening in the earlier stages. Another point is the complaint of pain about the ball of the thumb, or on the ulnar surface of the wrist. This may be found in certain instances quite apart from any active arthritis, and it seems worthy of being noted. In certain cases one notes atrophic changes about the hands. In others the nails are ribbed, or show coarse markings. The skin, in common with that of other parts of the body, may be glossy and shining.

*The Hip Joints.*—These were involved in 31 cases: Both hips in 25 cases; the right only in 3 cases; the left only in 3 cases. It is not uncommon to have complaint made of pain in the hip joint during an acute attack, but on examination nothing very definite is to be made out except tenderness. In the later stages there may be, as in other joints, more or less permanent deformity. The joint becomes fixed, often with the thigh slightly flexed and more or less abducted. The changes are often not as marked as in the cases with monarticular disease of the hips or spondylitis.

*The Knee Joints.*—These are by far the most frequently involved in the cases of this series, there being a total of 80 cases. The next most frequent of the single joints is the shoulder. The figures are: Both knees in 65 cases; the right only in 7 cases; the left only in 8 cases. Effusion occurs in the knee joint with considerable frequency, this being quite marked in 14 instances.[6] The knee joints in the acute attacks often show nothing very characteristic. There is some redness, swelling and tenderness. In later stages the joint commonly becomes somewhat fixed, and there is very often crepitus and marked thickening in the polyarticular structures. Along with this frequently goes marked thickening of the capsule. This can be readily appreciated by running the thumb up and down the inner surface of the joint opposite the interval between the two bones. A thickening of the capsule can thus be very readily perceived, and the thickened folds readily felt. One is often deceived into thinking that there is marked enlargement of the bony parts of the knee joints, whereas this appearance. is due principally to the periarticular thickening and muscular atrophy above and below the joint.

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[6] It is, of course, often difficult to be certain of the presence of small amounts of fluid in a joint. Probably it occurs much more frequently than figures generally indicate. In all these cases the presence of fluid was established beyond a doubt.

*The Ankle Joints.*—These were involved in 48 cases: Both ankles in 37 cases; the right alone in 5 cases; the left alone in 6 cases. The ankles show often much the same features as the wrists. There is considerable swelling about the joint, and there is stiffness and restriction of motion, with but comparatively little change in the joint itself.

*The Feet and Toes.*—There was involvement in some of the joints of the feet in 11 cases; of the toes in 10; of the great toe only in 6. The disparity between the involvement of the fingers and of the toes is very striking. Notice should be directed to the cases having involvement only of the great toe among the joints of the feet. In a doubtful case this suggests gout, but the changes in the other joints may be characteristic.

*The Symmetry of the Joint Involved.*—The majority of writers are very fond of laying emphasis on the symmetry of the disease, but, as will be noted from the figures given before of joint involvement, in a considerable number of instances only one joint was involved. For example, in 11 out of 50 cases of shoulder joint involvement, the disease was unilateral; in 12 out of 43 cases at the elbow joint; in 15 out of 80 in the knee joint, etc. The total number of instances of involvement of the joints of the upper extremity was 238, and of the lower extremity 186. The larger joints of the leg were involved 159 times, and those of the arms 126 times. The preponderance of joint involvement was markedly in the upper extremity in 4 cases, in the lower extremity in 12. This preponderance is, of course, analogous to the greater frequency of the involvement of the large joints of the leg. In only three instances, however, were the joints of one side of the body involved to the exclusion of the other side. One pair of joints only were involved in 3 cases, in 2 the knees, and in 1 the wrists.

How satisfactory the explanation sometimes given may be (namely, that the joints most involved are the ones most in use), there can be little doubt that, as a general rule, the large joints of the legs suffer more than the large joints of the arms. The hands suffer more than the feet. In reference to the association of the polyarticular forms with Heberden's nodes, the figures have already been given. Of the cases with spondylitis there was involvement with the other joints in 8 cases, in 4 of which there were multiple joints; in 1 in the hands; in 1 in the shoulders; in 1 in the knees and hips, and in 1 in the knees, hips and ankles.

*Effusion.*—The fluid obtained by aspiration is usually somewhat turbid, and contains a certain amount of granular material, with polymorphonuclear leucocytes. We have never found a hemorrhagic exudate.

*Muscular Atrophy.*—This is present in the majority of cases, but it is well to remember that in certain of the acute forms with a short duration there may be but little atrophy until after successive attacks. This is not invariable, for even after a short duration of symptoms in some cases there may be quite marked atrophy. The significance of this it is not the purpose to discuss here, nor to what extent it suggests a diseased condition in the central nervous system. The atrophy is often characteristic and striking, especially with the appearances in the joints. This is often true of the hands when the wasting of the interossei gives a very typical picture. The rapid onset of this sometimes gives a clew to the diagnosis in a doubtful case.

*General Joint Features in the Acute Attacks.*—Reference may be made to these, especially as there is so much difficulty in distinguishing the condition from acute rheumatism. There is usually a polyarthritis, but rarely any succession of joints becoming involved and then clear, as in rheumatism. A joint when once attacked is rarely free until the attack is over. There is usually considerable pain, moderate swelling, which may extend above and below the joint (especially in the elbows, wrists and knees), at times redness, but not as marked as in rheumatism, sometimes some heat, and rarely extreme tenderness. If with these features there be involvement of the joints of the hands or fingers, of the cervical vertebræ or temporomaxillary joints, the diagnosis is fairly certain. With these local conditions there is usually not high fever (often surprising when the degree of arthritis is considered), but a rather rapid pulse rate. There is rarely endocardial involvement. To sum up, a polyarthritis which does not shift about, slight fever and a rapid pulse, are the most striking features. As time goes on the fact that the joints change very little, the arthritis persists and the usual rheumatic remedies are of little avail, all help to decide the diagnosis. After the subsidence of the acute features the persistence of thickening about the joints is a suggestive feature.

*Temperature.*—Of this there were records in 86 cases, the remaining patients not being in the hospital long enough to obtain a complete record. Of these the figures are as follows:

| | |
|---|---|
| Normal | 15 |
| An average of 99 | 28 |
| An average of 99 to 100.0 | 21 |
| An average of 99 to 100.5 | 5 |
| An average of 99 to 101.0 | 10 |
| An average of 99 to 102.0 | 1 |
| An average of 99 to 103.0 | 1 |
| An average of 100 | 1 |
| An average of 100 to 102.0 | 1 |
| An average of 101 to 102.0 | 1 |
| Irregular | 2 |

Of the two irregular cases, in one the temperature varied from 99 F. to 105 F. This was associated with a general pneumococcus infection and death. In the other case the patient had a severe shaking chill, and the temperature arose to 104 F.; the only instance in the series where a severe shaking chill was noted.

These figures of the temperature records are of considerable importance. It will be seen that only fifteen cases, or 18 per cent., had a normal temperature, and that the great majority, fifty-nine, had a temperature averaging between 99 F. and 101 F. This is a point of considerable aid in the diagnosis. The majority have fever, but it is usually not high.

*The Circulatory System.*—There are notes of the cardiac condition in only 74 cases. Among these the heart was perfectly clear in 55. There was a soft systolic bruit, apparently not organic, in 10. In 2 there was marked irregularity, and in 7 an organic lesion. Among these latter cases there were 3 of aortic insufficiency, 2 of mitral stenosis and insufficiency, and 1 each of mitral insufficiency and mitral stenosis. In some of these the condition was associated with marked general arterial sclerosis, and probably the cardiac condition was due to this.

Of much greater significance are the records of the pulse rate. Of the 78 cases in which there were long enough records to note, the figures were as follows:

| | | | |
|---|---|---|---|
| 70 to 80 | 9 | 100 to 110 | 10 |
| 80 to 90 | 17 | 110 to 120 | 7 |
| 90 to 100 | 24 | 120 to 130 | 2 |

It will be seen that in two-thirds of the cases the pulse rate was above 90. This may be not only with the acute attacks, but also in the conditions characterized by more or less slow advance. We have found it of considerable aid in the diagnosis, especially in association with slight fever.

*Urine.*—This showed practically nothing abnormal. In 83 cases it was clear in 64, contained a very slight trace of albumin in 9, and albumin and casts in 10. Sugar was found in one instance. Determination of the total excretion of uric acid was made in a number of cases, but always with the finding of the normal amount.

*Glandular Enlargement.*—Of 33 cases of which we have careful records there was general glandular enlargement in 13, definite enlargement of some of the glands in 4, and no general enlargement in 16. This condition would probably have been found in many other instances had it been carefully looked for. In the majority of cases, at any rate with acute features, the glands in association with the affected joints are enlarged. This is worthy of note as supporting the view that the condition is an infective process of some kind.

*Spleen.*—Of 39 cases where there are careful notes, the spleen was found enlarged in 4, and in 35 no increase in size could be made out. This is a point of considerable interest, especially in association with the cases of "Still's disease," in which the enlargement of the spleen is such a marked feature.

*Subcutaneous Fibroid Nodules.*—Of these there are the surprisingly large number of 7 cases, and one additional doubtful case, in which the enlargement seemed to be in association with the tendon. Regarding these nodules, there is no doubt that they are found exactly in proportion as they are looked for. In this clinic careful search is usually made for them, and in all these cases their presence was confirmed by Dr. Osler's note. These figures give a percentage of 7.4, which is very much larger than in the instances among our cases of acute rheumatism (namely, 1.5 per cent.). The opinion is now fairly general that these nodules are not essentially rheumatic, although some writers would have us believe that they were absolutely diagnostic of a rheumatic condition. Of special note is the age of the patients in whom they were found. One was 27, one 33, and all of the others over 50 years of age. In rheumatism these nodules are almost always found in children.

*Pigmentation.*—Marked pigmentation was noted in 8 cases of the series, but it is doubtful if this represents the total number, had it always been noted. Some writers, especially Spender, have laid emphasis on the occurrence of brown pigmented areas about the forehead, face and forearms, especially as being often diagnostic. If one follows for a time the general incidence of these pigmented areas among all patients they seem to me to be about as frequent in other conditions as in arthritis deformans.

*Blood.*—The average percentage of hemoglobin in 33 cases was 70.6, and the red cells in 29 cases, 4,468,000. These figures seem rather high when one remembers the very frequent pale, anemic look of these patients; but the pallor is often more striking than the actual anemia. The average leucocyte count in 33 cases was 7,600. Of these in only 9 was the count over 10,000. In two of these the leucocytosis was probably due to other conditions. In one with an acute pleurisy the leucocytes arose to 18,000; in the other the count of 15,000 was associated with a general pneumococcus infection. These two counts are not included in the average. Of the remaining 7 cases it is interesting to note that in only 2 were the counts taken during acute attacks, rather a surprising result. In 6 cases the leucocytes were 5,000 or lower. Full differential counts were made in 8 cases. These gave an average of: Polymorphonuclears, 76 per cent.; small mononuclears, 14 per cent.; large mononuclears and transitionals, 8 per cent.; eosinophiles, 1.5 per cent.; mastzellen, 0.5 per cent. These are practically normal findings.

*Reflexes.*—The study of these is of interest, especially as some writers, R. L. Jones,[7] for example, attach some importance to them in the diagnosis. In the cases of this series there are not enough complete reports of the reflexes to draw any conclusions. But the general rule seems fairly well established that the reflexes in association with affected joints are usually increased. This was very evident in some of our cases where the involvement was asymmetrical. On the side affected the reflexes were exaggerated, but normal on the sound side. Whether the explanation lies in the changed local condition or alterations in the cord, is difficult to say. In addition to the deep reflexes, the superficial ones are often much exaggerated, which we have found especially true of the cremasteric reflex. This rather speaks for other than a local cause.

But the findings are not constant. The cases are so variable and the conditions so different that this may later be easily explained. Practically, the reflexes in different cases have been found exaggerated, normal, or decreased, but rarely absent. Ankle clonus was obtained in a few instances, but we have never obtained a definite extensor response to plantar stimulation.

How strongly the conditions of the reflexes speak for spinal cord involvement it hardly seems yet possible definitely to say.

*Unusual Features.*—These require no special mention. They comprise: Pleurisy, 2; severe diarrhea, 2; chill, 1; jaundice, 1; abdominal pain, 1; mental features, 1; purpura, 1; enlarged thyroid, 1; bronchitis, 1; paralysis, 1. The case with severe abdominal pain is of interest, as there have been cases with like features reported both in acute rheumatism and gout.

### PATHOLOGY.

This is again one of the doubtful points in the disease. Until we are certain of the etiology we can determine the morbid anatomy only. The essential element in our knowledge of the pathology is lacking. It is not the purpose here to discuss the various opinions at length. The two principal views are that the disease is (1) due to an infective agent (either a specific organism or a variety of organisms or their toxins) or (2) of neural origin.

For the infective view there are many suggestive points. Here, of course, only the polyarticular form is discussed. The mode of onset, often sudden, with involvement of many joints, the fever, increased pulse rate, are all in favor of an infection. The subsidence of these after a time, often to recur in subsequent attacks—the interval perhaps having been free of symptoms—and usually first or last the appearance of permanent changes about the joints are all important. In some patients there is permanent change dating from the first attack, in others this may only occur after repeated attacks. These seem comparable to the condition often seen in the endocardium of rheumatic patients. A first attack may leave the valves permanently damaged, or only more liable to involvement in subsequent attacks.

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[7] The Lancet, Dec. 27, 1902.

Could we determine a definite organism to be associated with the disease, the matter is settled. In this series we have never succeeded in obtaining any results from cultures, in spite of the greatest care in following the methods given (for example, by Bloxall). If we hold the view that many organisms (such as those of influenza, gonorrhea, etc.) are etiologic factors, there are many suggestive facts to support this. There seems no doubt of the association of attacks or exacerbations with various infections such as influenza. This may mean only lowered resistance, for we find this an important factor. Ill health from any cause, anemic or depressing conditions, may all apparently precipitate an exacerbation or another attack. In reference to the association with, for example, previous gonorrhea, it has already been noted that the disease is here very uncommon among the colored race, among whom gonorrhea is almost of general occurrence.

Some features are usually referred to as being much in favor of a neural origin, such as the rapid muscular atrophy, the curious association of alteration in reflexes, such as between the gluteal and plantar, etc. Of the rapid muscular atrophy there can be no doubt. It may occur long before there is any possibility of disuse producing it. After a very prolonged attack of acute rheumatism there may be considerable atrophy, but rarely with the rapidity and certainly not with the certainty of its development in arthritis deformans. The association of the reflexes often follows their segmental distribution, as may also the curious localized distribution of the lesions in the hands. Thus the middle and ring fingers only may be involved, or show special changes. In another case the thumb and first finger may show the same association. These may speak for primary spinal cord involvement, but the explanation suggested that they may be due to changes due to toxic substances seems worthy of note. The changes found in the posterior columns of the cord do not seem necessarily primary. We know that they may be found with any chronic toxic condition, as, for example, diabetes or pernicious anemia. May not the chronic cases of arthritis deformans with suggestive nervous manifestations possibly belong to the same class?

A point worth noting is the occurrence of enlarged lymphatic glands in many of the cases, nearly half of these where we have complete records. In the so-called "Still's disease" they are very marked. This is no more than we might have expected, if this be regarded as a form of arthritis deformans. The glandular system of children reacts more markedly to toxic absorption than that of adults. This glandular involvement seems to support the view that we have a toxic condition, probably due to some infection.

While the whole question must as yet be left open, the evidence seems to point more to the infective theory. Toxemia, secondary to infection, explains some, at any rate, of the nervous symptoms.

*Morbid Anatomy.*—Here again, in the majority of descriptions, we find only the late changes described. Opportunities for autopsies in the early stages are very rare. To describe the late changes throws no light on the condition. The majority might come from any long-continued degenerative joint condition. It is these that the majority of the writers have given as the pathologic anatomy.

One of the most important of recent observations has been made by Dr. Hale White, who had an opportunity to examine a comparatively acute case postmortem. In a proximal interphalangeal joint with marked changes he found that the most marked alteration was in the synovial membrane. This showed the formation of new fibrous tissue, and evidence of both recent and chronic inflammation. The membrane on the cartilage opposite the thickened fringe showed thickening, and the formation of fibrous tissue. The cartilage beneath this was thinned and eroded, and in places the erosion had gone through the cartilage. In connection with these areas there were foci of inflammation in the bone, but these changes were slight in comparison with those found in the synovial membrane. The synovial fringes in the knee joint showed no bony deformity, only the usual "thinned" condition of the ends of the bones so characteristic of these cases.

The only case of this series coming to autopsy affords but little information, so far as concerns the morbid anatomy of the disease. The patient was admitted with a general pneumococcus infection, with which was a pneumococcus arthritis. He had symptoms of arthritis deformans for over two years. The joint changes had gone on to erosion and eburnation of the bones. Each knee joint contained about 100 c.c. of purulent fluid. The synovial membrane was much thickened and injected, and there was evidently much overgrowth of connective tissue. Sections of these showed the surface covered with an exudate consisting of granular material and of polynuclear leucocytes. Below this was a layer of flat endothelial cells which merged into underlying fibroblasts, under which were many blood vessels and polynuclear leucocytes. Next to this layer was much fibrous tissue. These all seem to speak for inflammatory changes more than degenerative, at any rate in the early stages.

The findings—few though they be—all speak for an inflammatory condition at the onset. Degeneration comes later, but the beginning seems rather due to inflammation beginning in the synovial structures. This suggests infection, rather than neural causation.

Some writers have laid stress on various septic conditions, such as pyorrhea alveolaris. This may have some causal association, but its occurrence is so nearly universal as to throw doubt on its importance.

(*To be continued.*)

# ACUTE OTITIS MEDIA;

## THE NECESSITY OF AN EARLY DIAGNOSIS AND TREATMENT.*

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It is necessary that we make an early diagnosis of acute otitis media: 1, Because of pain which usually accompanies all acute attacks; 2, because of deafness which very frequently follows, and 3, because of the frequent danger to life by extension of the inflammation to the brain. If we consider the anatomy of the middle ear, with its proximity to surrounding parts, we readily see how important it is to examine our patients as early as possible and relieve the disease before an inroad is made into these dangerous fields.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

The middle ear, or tympanum, is situated within the petrous bone, and is an irregular cavity, the carotid canal lying in front and the mastoid cells behind, the meatus auditorius externally and the labyrinth internally. The tympanic cavity consists of two parts, the tympanic cavity proper opposite the tympanic membrane, and the attic, or epitympanic recess, just above the level of the upper part of the membrane. Its boundaries are externally the membrana tympani and meatus, internally the outer surface of the internal ear. It communicates in front with the eustachian tube and canal for the tensor tympani. It communicates behind with the mastoid antrum, and through it with the mastoid cells. It is exceedingly important that we should not overlook this proximity to the opening into the antrum through the posterior wall of the tympanic cavity. This opening is a large irregular aperture which extends backward from the epitympanic recess and the antrum mastoideum. This communicates with the mastoid air cells contained in the interior of the mastoid process, and we should remember that this same mucous membrane, found lining the tympanic cavity, continues into the antrum, thereby giving a direct course through which a very simple inflammation of the middle ear frequently results from an inflammation of the nose or throat due to some pyogenic infection, extending through the eustachian tube into the tympanic cavity, from there into the epitympanic directly into the mastoid cells. Thus are endangered the lives of our patients, a matter on which it is unnecessary to dilate.

Usually the first symptom is pain, commonly termed "earache." This is so common in some families that I am prone to believe that there is often an inherited tendency to this trouble. No doubt many of you have had whole families who have suffered with "earache," especially the smaller children. In nearly every case this is an actual inflammation of the mucous membrane lining the middle ear, extending through the eustachian tube. A child suffering with "earache," so often overlooked, I am afraid, by the "good old family doctor," is always in danger of deafness, and we should not spare any care to relieve this trouble, and warn the family of the danger. It is so often found that the ear thus affected is rarely restored to perfect hearing. This fact often escapes the notice of the family until many years after if only one ear is affected. The pain may be a dull ache or very acute. Often these attacks are at night, becoming so severe that the whole family is aroused, and the laudanum and sweet oil are forthcoming. Frequently in young children the seat of the trouble is never found, and often in a few days the nurse or some member of the family discovers a "running" ear, and perhaps the aurist is called in, but too often at that stage the hearing is partially lost.

The first thing asked of the aurist is to relieve pain. That is of paramount importance to the patient as well as to the family. Any physician can make the correct diagnosis. The use of the head mirror should be common to every medical man, and with that and a light, either from the window or a lamp, the inspection of the drumhead is easily made. In the examination of no part of the body is it so important for us to practice that delicacy of touch as in the handling of an inflamed ear. It is, indeed, important for the patient's welfare, and also for the physician's, as a rough handling is never repeated in that case, unless by force. If the conditions are such that a thorough examination can not be made give a general anesthetic and make it thorough. If the drumhead is bulging and pain intense, the first thing that should be done is a thorough paracentesis of the tympanum, and the sooner it is done the earlier the inflammation subsides and the less destruction of the parts results. If the drumhead is allowed to rupture spontaneously the disease runs longer, there is greater susceptibility to loss of hearing and more danger to the mastoid, and more liability to other complications which endanger life. It is my experience that if the membrana tympani is punctured early and the secretions allowed to drain, the disease is cut short, and complications are exceedingly rare.

MacLeod Yearsley[1] has this to say regarding the necessity of early recognition of ear trouble in children:

> The frequency of deafness in children due to failure on the part of the attending physician to recognize the existing ear affection in infancy is to be deplored. Often it is not until long afterward that the real trouble is appreciated, and it is then too late to effect a cure by treatment. Pain in the ear is due to inflammation or non-inflammatory affections. The latter, neuralgic, is rare in children. Loss of weight and elevation of temperature should always demand an examination of the ears. Hartmann regards intestinal disturbances in infants suffering from otitis media as being due to the reabsorption of the toxic poisons from the exudate in the tympanic cavity rather than as a result of infection entering the eustachian tube during the act of vomiting. To the general practitioner the value of exclusion of ear disease can not be overestimated.

Dr. Otto J. Stein,[2] writing on middle ear disease and its relation to the cranial cavity, says:

> In the entire human economy there is not a single cavity which is of such vital, relative importance to its neighboring structures as that of the middle ear. It bears such important relationship to all which lies about, hidden away as it is deep down in the firmest and hardest bone of the body, that oftentimes it is the very thread from which suspends the sword of Damocles.
>
> Disease in this region means not only deafness, noises in the head, discharge and dizziness, but, when not properly recognized and taken in hand, results in invasion of the cranial cavity and perhaps death. The very fact that it is a small cavity, not readily visible and tucked away in so strongly fortified position, that when disease runs riot within its walls it lays the entire adjacent territory open to infection and invasion, is sufficient reason why more study, more careful analysis and sober consideration should be given to any sign or symptom pertaining to the ear. Only a few years ago the profession was taught to disregard a chronic discharge from the ear, with the admonition that to check it would be dangerous, therefore, to let it alone to take care of itself. This idea of the subject took its origin, presumably, from the fact that many cases attended by spontaneous cessation of the discharge became worse and died. As a result of this teaching the laity came to regard a running ear as a most natural state of affairs, which to interfere with or check by any means would tend only to complicate matters. Formerly patients had to be satisfied with such advice from their physician, because of an undeveloped state of the profession's knowledge, but the day of such ignorance and omission is past.

In conclusion, we should first consider earache as a warning note of danger to the patient both as respects function of hearing and life.

Second, in making the diagnosis, especially as to the inspection of the trouble, we should avoid opiates as much as possible, for they always mask the symptoms, and it would be difficult to thoroughly diagnose the extent of the disease. If the membrana tympani has not already ruptured, after we have made a diagnosis we should perform paracentesis, whether there is much bulging of the membrane or not, for the incision of the drum membrane is important to hasten the evacuation of the pus or serum that is contained behind the tympanum and also to relieve the pain.

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[1] Pediatrics, June 1, 1901.

[2] Annals of Otology, Rhinology and Laryngology, May 31, 1901.

## DISCUSSION.

Dr. H. Dupuy, New Orleans—Free incision of the tympanic membrane is, of course, the only surgical procedure adapted to such cases, but Dr. Boyd did not lay sufficient stress on the anesthetic. Must we use general anesthesia, or have we any satisfactory local anesthetic? In our Eye, Ear and Throat Hospital we use solutions of cocain, anilin oil and absolute alcohol. We use an 18 to 20 per cent. solution of cocain in a solution of equal parts of anilin oil and absolute alcohol. I am sure we have used that solution over 800 times. We fill the canal with this solution and allow it to remain for 10 or 15 minutes, after which time the drum is usually sufficiently anesthetized to permit a free incision. I have been asked by Dr. Cobb what has been our experience with the addition of anilin oil. In all those cases only one did not do well. In that case there was a perforation, and I had the solution instilled into the ear, twenty drops every hour. At that time we knew very little about the effects of the oil. At the end of the third hour I had a most violent case of toxemia. The patient was deeply cyanosed, pulse 165, temperature subnormal, and death seemed imminent. But remember that in this case there was a solution of continuity. The patient was suffering very much, and we injected the solution to secure relief, intending the next day to introduce a more formidable procedure. We have tried menthol and a number of other preparations, and we have decided that if the anilin oil mixture were not satisfactory we would resort to general anesthesia.

Dr. Philip Hammond, Boston—Some four or five years ago, at the Massachusetts Infirmary, we made some experiments to find a satisfactory local anesthetic. Cocain would not penetrate. Cataphoresis, as dentists employ it when working about the teeth, apparently had no effect. Two or three years ago I employed the formula of which Dr. Dupuy speaks. It was used in my clinic one fall and winter session by different observers on a number of cases, although I saw most of the patients myself. I could not see that it had any effect. Some patients will not feel paracentesis anyway. There are cases of great pressure inside the tympanum, with bulging of the drum, in which there is no pain from paracentesis. But in high-strung nervous patients, especially of the better class, this solution had no effect.

Dr. Edward C. Ellett, Memphis, Tenn.—Experiences seem to differ. I have been using the menthol-carbolic acid mixture for four or five years, probably about a hundred times, and I have never failed to get a perfectly satisfactory anesthesia of the drum. The solution is simply painted on the drum with a very small wisp of cotton twisted on the end of an applicator, small enough not to obscure vision. The effect may be all due to the carbolic acid for all I know. The discoloration produced indicates how far the anesthesia extends. I have performed simultaneous double paracentesis with this solution without a particle of pain, and I have employed it on children two years old without the manifestation of any more reluctance than they would exhibit to the use of the ear speculum or the applicator. I use equal parts of cocain, menthol and carbolic acid, rubbed up to a liquid. I was glad to hear mention of the pain after perforation of the drum; for, from the text-book and journal articles, I had almost come to think that I must be the only man who had pain continue after the operation.

Dr. D. A. Kuyk, Richmond, Va.—Although so many cases are reported in which the cocain and anilin oil solution has been used without difficulty, I think we should warn the general practitioner as to its danger. I have had two cases of acute poisoning from this solution; in one the drum was perforated. In one case, a child of 3 years, after the use of four or five instillations of the solution the child's face became blue and pinched, the eyes glassy, the pulse so rapid it could not be counted, and death seemed imminent. Hypodermatic injections of strychnia, the use of hot water bottles and various methods of resuscitation were required to save life. The other case was a man 65 years old. The shape of the canal was such and there was so much swelling that the drum was hardly visible. I wanted to open the external meatus, but he would not consent. The pain was marked. Four instillations of the solution were made by a trained nurse at hour intervals. In about four hours he began to have the classic symptoms. The nurse thought it was only the depression from pain and paid no attention to it. The next morning she telephoned me and asked whether to instill any more of the anilin oil, because the pain was returning. It was several days before the patient was able to walk about the room. As specialists we may use this preparation with comparative impunity, but we should warn practitioners and druggists against giving cocain and anilin oil for the relief of pain. The frequent use of cocain is a sin of commission every day. Druggists tell me that the very beginning of the cocain habit is frequently a spray or ointment prescribed for a patient.

Dr. Harmon Smith, New York—In the hospitals of New York City we have tried the various anesthetics. The one mentioned by Dr. Dupuy is the one we now use more than any other. We have not yet met our Waterloo, but sooner or later we will find a patient with a peculiar idiosyncrasy to cocain. In my opinion, anilin oil anesthesia is the most potent of local remedies in rendering paracentesis painless. Nitrous oxid is more satisfactory, however, than any local anesthetic.

Dr. Charles H. Baker, Bay City, Mich.—Anilin oil may produce the same effects that are caused by acetanilid in excessive doses. It is not the cocain so much as it is the anilin oil that causes trouble. I was recently asked by a physician for the composition of the drops that I had used the day before on his daughter. Both drums were intact. Symptoms like acetanilid intoxication were present, and I immediately instructed them to discontinue the instillations. In another case, in which the mixture was used by a physician for earache, it required considerable stimulation to bring the child through. I am in the habit of using this mixture in selected cases only, so that the two cases mentioned occurring in a comparatively small number of cases would seem to show considerable danger in the use of the solution. The instillation of quantities *ad libitum* should be prohibited, and the remedy should be watched.

Dr. D. A. Kuyk, Richmond, Va.—Perhaps the chemical combination of the cocain and the anilin oil does the damage; either one alone might not have the same poisonous effect. I have used them separately without bad effect.

Dr. Lewis G. Woodson, Birmingham, Ala.—I think the possibility of cocain intoxication is rather exaggerated. I do not believe that cocain, used alone, has any appreciable effect in producing anesthesia of the drum membrane. In the mixture with carbolic acid, for instance, the carbolic acid is the useful agent. For a number of years I have been using a 20 per cent. solution of carbolic acid in glycerin before incising the drumhead; this renders the operation practically painless. Before operating, this solution is also useful for sterilizing the auditory canal. I doubt very much whether solutions of cocain are ever absorbed by the drum membrane. If they were absorbed, anesthesia would follow in all cases, as we do in other parts of the body. It is only when a perforation exists in the membrana tympani and cocain makes its way into the tympanic cavity that toxic symptoms are developed. I have frequently used from 20 to 30 per cent. solutions in the ear without producing the slightest evidence of toxemia. In adults one can very often, if there is much tension, incise the drumhead freely without any anesthesia. In some cases it is better to use general anesthesia; for this purpose gas is probably the best and quickest.

**Dr. J. F. Barnhill**, Indianapolis—If the fluid in the middle ear is catarrhal and the disease limited to the atrium of that cavity, local anesthesia, while not complete in any case, is here indicated and usually sufficient. But in purulent cases in which the disease has attacked the attic, and the inflammation is of a violent nature, the paracentesis, in order to do the good that is expected from it, must be extensive and extend into the mucous membrane of the middle ear, cutting through the reduplications found in the attic and extending into the skin of the external meatus for some distance. This procedure is always and most satisfactorily done under general anesthesia. I have believed that anilin is the most efficacious of the local anesthetic mixtures. I have had two experiences from its use which were entirely unsatisfactory; in each of the cases a diphtheritic exudate formed, covering the skin of the entire external meatus and very greatly prolonging the disease. I have also had one similar experience follow the use of carbolized glycerin for the same purpose.

**Dr. George L. Richards**, Fall River, Mass.—Paracentesis simply means a puncture, and the average general practitioner whom we are trying to teach will probably get a small spear-shaped knife and puncture the drum membrane slightly and report that he has done a paracentesis. If we would say that we make a free incision of the drum membrane, it would be plainer. I think, as otologists, we should drop the term "paracentesis" altogether.

**Dr. Kate Baldwin**, Philadelphia—I have found from several years of careful observation that many cases of earache, especially in children during the first and second dentition and even up to the eruption of the wisdom teeth, are to be ascribed almost entirely to the process of dentition. In those cases a thorough free incision down on the tooth will relieve the earache. If this is done before pus is formed it will make unnecessary any puncture of the drum. I have gone over this subject very thoroughly, having a dentist in connection with the clinic, and I think it is a matter worthy of your consideration.

**Dr. Walter R. Parker**, Detroit—I have secured my best results from carbolic acid as a local anesthetic. Cocain has not seemed to work so well. Much depends on the method of application. In five or six cases I have used pure carbolic acid, and with absolute alcohol controlled its action completely.

**Dr. C. M. Cobb**, Boston—I am afraid of cocain, and I am a good deal more afraid of anilin oil. I prefer to hurt my patients a little rather than to explain to the family how they happened to die. The use of even a weak solution of carbolic acid may produce very decided and extensive tissue necrosis. Dr. Frank Harrington, Boston, reported a necrosis of the entire finger of a workman from the use of a 2 per cent. solution of carbolic acid. When carbolic acid is applied to the drum, I think trouble is more likely to ensue from prolonged suppuration and the patient is likely to be left with a more damaged ear than if cocain or nothing was used. Of course, one can neutralize the carbolic acid with alcohol, but that is not the procedure that has been very generally recommended.

**Dr. J. F. Hill**, Memphis, Tenn.—I have tried a little of every anesthetic, and I have found nothing to equal the preparation Dr. Ellett mentioned. That can be used with perfect satisfaction on children two years old who are crying with earache. I have hundreds of times relieved the condition without free incision by forcing 3 or 4 drops of equal parts of spirits of camphor and chloroform into the middle ear by Politzer's bag. The air in the middle ear becomes stagnant, and it is purified by this solution being thrown through the eustachian tube into the middle ear.

**Dr. W. Scheppegrell**, New Orleans—If carbolic acid is used only for the incision of the drum, and if its effects are carefully watched, it is useful. But there is danger in its being used for the relief of pain. We can not use carbolic acid in the auditory canal for the relief of pain without danger. If it comes to be used by the laity as they now use cocain, we will surely have many deleterious effects. Its use should be restricted to the incision of the tympanic membrane and its effects at once neutralized.

**Dr. F. D. Boyd**, Fort Worth, Texas—When I selected the title of this paper I knew that all would agree as to the necessity of an early diagnosis and treatment, but I expressed the views in the paper for the benefit of general practitioners and avoided outlining the treatment, etc., because the paper would be prolonged. I agree that "paracentesis" is not a good word, because we make free incisions, and a paracentesis is generally understood as a simple puncture. I have tried cocain in various ways, and have never found it beneficial. I have been forced to resort to a general anesthetic when making a free incision into the drumhead. If we want to relieve a case early and get the best effects, it is better to give some general anesthetic. Often we do not see the patients early; they come to us secondarily, after they have been to the family physician.

# SOME RECENT EXPERIENCES WITH CHRONIC SUPPURATIONS OF THE EAR.*

PHILIP HAMMOND, M.D.

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BOSTON.

Discharge from the ear is regarded by most patients as disagreeable, but few recognize the fact that it is a distinct menace to life. After the acute symptoms of abscess formation have subsided, the absence of pain may lead to the neglect of the discharge, or the secretion may be so slight in quantity as to escape observation, and in this way become chronic. With any long-continued suppuration there is very apt to be some invasion of bone tissue and consequent necrosis. In the ear, around which center so many important structures, this is an especially dangerous condition, the more so as the erosion of the bone is insidious, the patient experiencing no discomfort whatever. This carious process usually attacks the ossicles first, and is often limited to them, but later spreads to the main bone. The bone separating the ear cavity from the brain and the large blood vessels varies so in thickness that it is impossible to know when perforation is going to take place. The only safe way is to absolutely stop the discharge.

Of the three cases reported here, the first is a good illustration of the beneficial results of operative interference before the disease has extended beyond the ear. The other cases show equally the folly of allowing a suppurative process to continue within the temporal bone, even although the patient suffers no inconvenience from the disease.

Case 1.—A young lady with a history of discharge from the right ear three years ago had some treatment at that time and shortly after was assured that the ear was well. There had been no further disturbance in the ear otherwise than some deafness, until a few months before I saw her, when she complained of extreme tenderness about the right ear and side of the head, with some vertigo and nausea. There was with this some purulent discharge. The dizziness became almost constant and was marked when she came to see me. Examination of the right ear showed a large destruction of the drum, with much inspissated pus. With the middle ear probe caries was felt in the region of the incus. There was also a mucous polyp springing from the lower part of the tympanic cavity. The patient was advised to have the ossicles removed, and this was done two days later. Under general anesthesia the remnant of the drum membrane, the malleus, incus and the polyp were removed. Further probing failed to discover caries of the main temporal bone. Subsequent examination of the bones showed entire absence of the long process of the incus from caries.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

The ear was cleansed with a middle-ear syringe and a saturated solution of boracic acid in 95 per cent. alcohol injected into the attic. This treatment was carried out for the next month, at first daily, later at longer intervals, until at the end of the fourth week the ear was absolutely dry. This was in January of the present year, and the patient has been seen several times since, but there has never been a trace of moisture or crust formation. The headache and vertigo entirely disappeared, and the hearing was increased from absolute inability to hear voices so that the patient could easily understand a conversational voice at a distance of four feet.

Case 2.—*This represents a class not infrequently seen by aurists, and is by no means an extreme type.*

The patient was a man of about 40, who, during an attack of grip, developed a pneumonic condition. There was a sharp chill, with a temperature of 102, and for some days the fever was intermittent. There was severe pain in and around the right ear. As there was a history of former abscess in this ear, the family physician thought it wise to have it examined, and I was called at the end of the first week. Examination of the right ear showed a purulent discharge through a small round hole in the drum, but no swelling of the membrane or canal walls. There was marked tenderness of the mastoid and also of the back of the neck along the spine. There was dulness of the base of both lungs, more extensive on the left. The patient was unconscious, had divergent strabismus, and at times Cheyne-Stokes respiration. A diagnosis of purulent meningitis with septic pneumonia was made, and the family told that the case was hopeless. His general condition was such that he would not have survived an operation. He died within the next twenty-four hours.

Case 3.—While perhaps not so common a case, this one is still extremely instructive as an example of the condition which may follow a suppurative ear.

The patient was a boy of 9, who had had a chronic abscess in the right ear for six years. He had received some treatment for this, but for several years it had been neglected because it had not given rise to any trouble. Four days before I saw him he had severe pain shooting into the right side of the head, followed by two chills. His temperature rose to 103 at this time, he had nausea and vomiting, and was dizzy on raising his head. The pulse was very rapid and intermittent. This condition continued up to the time I saw him. Examination of the right ear showed great swelling of canal, which was filled with pus and desquamative masses. The drum membrane could not be made out. There was decided tenderness over the mastoid antrum. The heart, lungs and abdomen were negative. The boy was at once sent into the Massachusetts Charitable Eye and Ear Infirmary, and I append a portion of the hospital records:

"Feb. 8, 1903. Operation, ether, Dr. Hammond. Usual incision, cortex showed osteitis in mastoid fossa. Cortex soft, opened with hand gouge. Cells diploetic. Pus welled out. Antrum enlarged, tegmen found carious and granulations on dura, which were removed. Small opening made with chisel above linea temporalis into middle fossa. Dura normal. Posterior wall of auditory canal removed, and mastoid antrum, tympanum and canal thrown into one large cavity. Membranous canal slit posteriorly and stitched back. Whole wound and meatus packed with iodoform gauze."

For nearly a week following the operation the boy was in very fair condition, except that the temperature remained around 103. On February 14, six days after the operation, there was a temporary relapse, the temperature rising to 105, pulse irregular and some cyanosis. On the following day the patient was quite bright and improvement was marked until March 3, seventeen days later, when he suddenly became delirious. This attack also lasted but a few hours.

During the next two weeks a steady gain was made apparently. The appetite became good, he began to sit up, first in bed, then with his clothes on, and played around the ward with as much zest as any of the children.

March 18, six weeks after the first illness, there was a sudden attack of vomiting, accompanied by marked cyanosis. This was at 2 a. m. At 6:30 a. m. Cheyne-Stokes respiration was noticed. There was nausea with considerable retching, lateral nystagmus, tremor of arms and hands and convulsive movements of the facial muscles. The patient was unconscious, and at times delirious. The pupils were widely dilated, but at times reacted to light.

After consultation with Dr. J. Orne Green further operation was decided on as the only hope of saving the boy's life. I quote again from the records:

"March 18, 1903. Operation, ether, Dr. Hammond; old wound opened and granulations curetted out. Dura exposed in last operation dark and covered with granulations. Part of squamous bone removed and temporal lobe probed. A sinus extending from the base of the brain upward into the temporal lobe for two inches was disclosed. There was no pus in this cavity, but the surrounding brain tissue was necrotic. The patient did not recover consciousness after the operation, but died early the following morning. Permission for autopsy could not be obtained."

The obvious lesson to be learned from these cases is the necessity for promptly checking all suppurative processes in the ear. It is not enough that the external discharge shall have ceased, as it is possible for the disease to remain latent for years. There must be absolute cessation of crust formation before we can consider the ear well. A little careful study of cases of long standing will usually show as the cause of the chronicity some disease of the bone. After some practice with the fine silver probes used for this purpose it is astonishing how often we will be enabled to detect the presence of caries of the ossicles and even to tell with considerable precision its exact location.

As to the removal of the bones when diseased, it is merely the application of general surgical procedures to the ear. The one factor that has done as much as anything to bring the operation into disrepute is that in cases of long standing the caries may not be limited to the ossicles, but may have extended to the main temporal bone. Even in this event, although suppuration may not entirely cease, it will, at least, have free drainage, and there will be a better opportunity for the application of remedial measures.

The question of the resultant hearing in the affected ear is one of great importance to the patient, for not infrequently this is the immediate cause which leads him to seek advice. It is interesting in this connection to note that in many cases the incus is so affected by necrosis that it no longer articulates with the stapes, and, therefore, the external portion of the sound conducting mechanism (the drum, malleus and incus) is merely a hindrance to audition. A large percentage of the cases seen by the writer have shown improved hearing as a result of the operation. It is advisable, however, to always impress on the patient the importance of the fact that hearing is of secondary consideration as compared with the danger to which the necrotic lesion within the temporal bone subjects him.

Where the disease has invaded the antrum, and the discharge persists despite all attempts at its relief, the writer thoroughly believes in the value of the radical operation. By throwing open all the accessory cavities every portion of the ear becomes readily accessible, and in this way only can we be sure that there is no fistula leading to the meninges or lateral sinus. It is extremely important that all suspicious openings be explored. I recall an instance a few years ago where on probing the tegmen the instrument suddenly passed upward, opening into a large extradural abscess. The patient made a good recovery, which she probably would not have done had not this careful examination of the bone been made.

The extent of the destruction that this disease can accomplish within the temporal bone with no other symptoms than the presence of the discharge is truly wonderful. In many cases it is not until the patient has a chill, or perhaps severe pain in the ear, accompanied by serious brain symptoms, that he is brought to our attention.

Undoubtedly, most of the cases of extensive caries can be cured by means of the removal of the diseased bone and the invagination of the outer epidermis, provided the patient be brought to us while the disease is still confined to the ear. The great trouble is that these cases are especially apt to be neglected because the process is painless, and has perhaps already existed so many years that the patient has become quite accustomed to it.

It is a duty we owe our patients to inform them of the serious results attendant on neglect of this disease and to urge that advantage be taken of any measures which promise relief.

## DISCUSSION.

Dr. H. Dupuy, New Orleans—We have been taught that septic infections do not follow simple suppurative conditions in the middle ear unless the sinus be involved. Case 2, in which the middle ear suppuration was followed by pneumonia and in which there was no sinus involvement, shows that pyemia may result from middle ear suppuration without involvement of the sinus. That seems to me an important point. We can have septic infections without sinus involvement.

Dr. Frank W. Hilscher, Spokane, Wash.—Dr. Hammond spoke of a case not being cured until pus is absent. I suppose he means by that, until he can ascertain no longer the presence of pus.

Dr. Hammond—The case must be followed until there is absolute dryness and absolutely no pus formation.

Dr. Hilscher—In a case that gave me a great deal of trouble in diagnosis there occurred absolute dryness and no local evidences of pus formation, while there was great destruction going on behind an intact drumhead. The patient, a farmer, was supposed to be suffering from typhoid fever, and was in the hospital a little over a month before I saw him. The physician in attendance asked me to see him because of a discharge from his left ear which had begun the previous day. I found a little pus running from the auditory canal. On examining the temperature chart I found it was not the usual curve typical of typhoid fever. Subnormal temperature, followed by a sudden rise of temperature frequently occurring during the last few days, made me suspicious of sinus involvement. He had no tenderness whatever over the mastoid and had had none at any time. I was at a loss to make out any mastoid trouble. I treated him in the usual way I do suppurative ear cases, and the next day I found the membrana tympani closed up and the ear absolutely dry. I watched him for several days and still there was no pus in the cavity. Subsequently I opened the mastoid and found a large cavity filled with pus, the inner wall perforated and a thrombosis of the lateral sinus, thus giving entrance of pus to the blood and producing pyemia. I mention the case to call attention to the difficulty in diagnosis occasionally met, and the ease with which mastoid disease may be and is frequently overlooked and death ascribed to other causes.

Dr. J. F. Barnhill, Indianapolis—Otologists should never neglect an opportunity to warn the profession and laity of the danger that lurks in a discharging ear. I have been convinced, as you no doubt all have been, that we have not been careful enough to explain to patients the nature of these dangers. We have not been as careful as have the abdominal and general surgeons. A few years ago, for instance, in the discussion of appendicitis, the most aggressive abdominal specialists of this country took pains to warn the public as to the dangers of this disease. The art of oratory was freely indulged in, and one gentleman stated that if a red light were hung on every grave filled by a victim of appendicitis, the world would be lighted by night. There is as great danger from a chronic discharging ear as there is from an appendix in which there is pus formation, but too many of the profession do not as yet recognize this fact. Many an individual with such a discharging ear walks the street or goes about his daily work, who, could he know the danger, would seek his physician immediately. McEwen, in his book, says that such a patient may work at the severest labor up to the very hour of the rupture of an otitic abscess. There is so often but little pain or other disturbance from aural discharge, and the patient has had ear trouble so long without anything alarming befalling him, that he may go on entirely unaware of his impending danger until the end is already reached, and the operator, if given a chance, has not the certainty of results that would have been assured by earlier surgery.

Dr. C. M. Cobb, Boston—Sometimes these patients die in a few hours, but if we can save even one life we have done a great deal. I saw a patient whose family physician had seen him at 3 o'clock in the afternoon. The patient was provoked that the physician had been called, and he declared that he was not sick. He died at 1 o'clock the next morning. He had an old ear disease, which gave him so little trouble that his wife, who had been married to him five years, did not know he had it. That was an extremely rapid case. I have seen cases with convulsions, and practically all of them have had meningitis. They usually know for a long time that they have trouble with the ear and become accustomed to it, and do not know that it is a menace to life.

Dr. George L. Richards, Fall River, Mass.—I have had a number of experiences which prove the extreme danger of suppurative inflammations of the middle ear. I saw a case in the hospital; the patient went home, but the next day he was brought back hemiplegic and comatose and, although operated on, he did not recover. Often these cases do not come under observation soon enough. We should state to these patients that we can not accept the responsibility of chronic suppurative inflammations of the middle ear unless they are properly treated. There is so little pain in these cases and they often last so long with so little discomfort that the patient disappears from our observation if we do not cure the discharge in a little while. We should state to them that every one of these cases is a slumbering volcano liable to erupt at any time.

Dr. Philip Hammond, Boston—It seemed to me that one of the most interesting features in the last case, in which there was necrosis of the brain tissue, was that, although this boy was under the observation of trained assistants, no definite symptoms were observed. During the last two weeks of his life there were absolutely no definite symptoms of this trouble in the brain. I have seen fatal cases following direct extension of the suppuration through the tegmen. I remember during one week in the hospital two cases died in that way. In one case we had an autopsy, and in the other we know there was a sinus thrombosis. Dr. Hilscher spoke of the operation on the sinus. In chronic suppuration with caries of the temporal bone it is common not to have tenderness of the mastoid.

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**A Layman's Interest in Anatomy.**—It is related that Dr. Nuhn, the professor of anatomy, at Heidelberg, was much surprised one day when a banker, usually unsociable, sat with him in a railway car, and, after a pleasant chat, asked him all sorts of questions, especially about the anatomy of the heart. The next day he called, by permission, and watched the professor dissecting one of these organs. Then he drove home, and a few hours later it became known that he had committed suicide by skilfully plunging a dagger into his heart.—*Medical News.*

# THE EFFICACY OF THE TREATMENT OF ACUTE PURULENT OTITIS BY ASEPTIC DRAINAGE.*

H. GRADLE, M.D.
CHICAGO.

The object of this paper is to show the superiority of the treatment of acute purulent otitis by aseptic drainage. The method itself is the familiar one which has gradually gained in popularity. Its principles are paracentesis as soon as the diagnosis is made, and continuous absorption of the discharge by an aseptic gauze drain in the meatus and a large dressing over the auricle. After sterilization of the meatus and auricle by means of carbolic acid solution the sterility of the gauze is further assured by the liberal use of powdered boric acid in the dressing. The external gauze pad is changed as soon as moisture shows, while the tampon in the meatus may be left 24 to 48 hours at a time.

Notwithstanding its simplicity and efficacy, the superiority of this treatment is not universally acknowledged. In illustration I might quote two recent publications by acknowledged authorities. Politzer, in the latest edition of his text-book, does not wish to exclude syringing and other methods completely and speaks of the "dry treatment," but in terms of qualified praise. Bezold[1] prefers syringing, mopping and boric acid insufflation because he has seen unsatisfactory prolongation of the discharge and frequent complications in the form of mastoiditis in consequence of the dry treatment. As I shall attempt to show, such unfavorable opinions must have been based on imperfect technic.

What criterion are we to apply in judging of the efficacy of any treatment of purulent otitis? The duration of the disease and its severity are so variable that statistics as to time of recovery are not fully convincing. Even in cases of similar etiology the time of recovery varies with the individual's power of resistance. A valuable contribution to the point is, however, a table presented at the last meeting of the German Otological Society by Koerner. Among 78 cases the time required for healing was 7 days after paracentesis done on the first day; 9 days after paracentesis done on the second day, and up to 26 days after paracentesis done on the seventh day or later. From personal experience I can say that whenever the "dry" treatment was carried out rigidly the course was shorter by at least one-third than I would have expected formerly in cases of similar severity.

The criterion which I have learned to regard as a proof of efficient treatment is the character of the discharge. In the milder cases, which either perforate spontaneously or are punctured within the first or second day, the discharge is always entirely serous and neither stringy nor purulent. I believe that the same rule applies to all cases of acute otitis, no matter how severe, provided the drumhead is punctured early enough. It is true a perforation or a paracentesis done after the third day usually yields a purulent discharge. But whenever I have had the opportunity to tap the drumhead earlier than 48 hours after the onset I have always obtained a clear fluid. By means of a properly absorbing gauze dressing reaching to the drumhead and changed sufficiently often to remain absorbing and sterile this serous discharge can be kept serous. Its change to a purulent fluid is due to faulty technic. No other treatment with which I am familiar prevents the discharge from becoming purulent except in the mildest cases.

My invariable experience has been that after a climax in the amount of discharge within the first 36 to 48 hours the secretion diminished steadily and progressively to an uneventful recovery, provided due care was taken to keep it serous. The length of time of the discharge in some 40 cases in which the method was carried out successfully varied from 5 to 12 days in the majority, and but exceptionally ran to 15 days. If through any neglect the discharge becomes purulent this progressive improvement is interrupted as indicated by unchanging rate of secretion, and hence longer duration, greater discomfort and the possibility of mastoid complication.

The change from a serous to a purulent or mucopurulent secretion seems to depend mainly on insufficient removal of the fluid. Hence a late spontaneous or operative perforation yields pus at once. If the drainage is not perfect by reason of some neglect the unfavorable change in the character of the fluid will take place speedily. Secondary infection through the meatus with other bacteria may also occur later on and prolong the disease. But during the earlier period this does not seem to be common.

The treatment by aseptic drainage requires, therefore, skillful supervision in order to be successful. But when successfully carried out it has yielded, in my observation, the quickest result and the mildest course. In no case have I ever seen any complication as long as I succeeded in keeping the discharge serous.

In the case of a purulent discharge due to a late perforation or insufficient care in the change of the dressing I have found gauze drainage as satisfactory as any other mode of treatment. But since thick pus is not absorbed as freely as a serous fluid the special superiority of the treatment is not as apparent as in those instances in which its early and proper use prevented purulency of the discharge throughout the entire course.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

[1] Discussion before the German Otological Society, May, 1902, and Arch. of Otology, February, 1903.

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# THE GREAT VALUE OF DRAINAGE AND ICE IN THE EARLY STAGES OF MASTOIDITIS.*

SARGENT F. SNOW, M.D.
SYRACUSE, N. Y.

At the last session of this Section I presented a paper[1] on "Conservatism in Mastoiditis," in which 40 well-developed, advanced and some serious cases recently treated by free tympanic drainage and the use of ice over the mastoid without a failure were reported; the observation was also made that I believed over 50 per cent. of our present external operations could be avoided. The paper was followed by a spirited discussion during which many valuable points were brought out and some criticisms on my position were offered, but experience impels me to remain of the same, or a stronger, opinion. It also became manifest by the discussion that otologists do not yet agree as to the best course to pursue in treating the purely acute forms of this disease.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

[1] The Journal A. M. A., Jan 31, 1903.

That conservatism has a place in acute mastoiditis is clear, but I emphatically desire it to be understood this year, as well as last, that I take a conservative attitude only as compared with those who advise the external operation immediately on evidence of mastoid involvement, and then under the following conditions:

1. Conservatism must be confined to cases not complicated by extreme or intercranial symptoms.
2. Free drainage must be secured promptly by a skilled otologist and this followed by conscientious trained nursing.
3. The patient must be kept within easy reach and treatment continued for a few days after active symptoms have subsided.

In those cases where the above conditions can be complied with conservatism becomes a safe, and may form a very proper, subject for consideration, even by this body of men, skilled as they are in more radical surgery of these parts, but cases presenting symptoms of intercranial involvement or extreme conditions, even in acute mastoiditis, require such free drainage as can only be obtained by the external operation.

From a twelve years' experience in mastoid cases, in which hundreds have been under observation, it appears to me that in any line of treatment short of operating externally free internal drainage secured in the early stages is all-important. This should be accomplished by what may be termed a tympano-Wilde's or tympano-canal operation, cutting the drum in the posterior half from the lower border upward, to and through the attic folds, outward along the internal mastoid or superior posterior wall of the external auditory canal. Such an incision is done by a spear-shaped double-edged knife strong enough to lay the tissues open to the bone, thereby lessening periosteal tension in the immediate region of the inflammation, as well as giving free drainage from the tympanum and attic. A momentary anesthesia produced by gas, bromid of ethyl, or chloroform is necessary in aggravated cases, for we must be exact and thorough. Of the three I prefer bromid of ethyl, but chloroform is also very satisfactory.

Before this operation in acute otitis media we have a cavity containing secretions often most virulent, the active agents of which are sure to invade deeper structures; after it we have a simple abscess properly drained. Pent-up secretions will seek the point of least resistance for an outlet; if the drum membrane does not give way the mastoid naturally and easily becomes involved. What could tell us more plainly that our first duty is to secure a proper outlet for this menacing accumulation?

Some drumheads are very tough, and we can not assume that they will yield to pressure before the mastoid cells are put in hazard. Even if they do yield the opening is liable to be insufficient to care for the large amount of pus that is being manufactured, and mastoid symptoms begin to develop, voicing Nature's demand for better drainage. Verily, he who obtains and maintains a free drainage in acute otitis media averts a probable mastoiditis.

An active inflammation of the middle ear is really the first stage of mastoid trouble; prevention in this early stage is worth a pound of cure later; while in some cases a simple puncture of the drum may be all that is necessary to abort more grave conditions, it seems better to be on the safe side and make the incision free and deep. Why should we hesitate? No damage to the hearing comes, for repair sets in only too quickly, often forcing us to enlarge our original opening to keep a proper pus outlet.

When there is an actual involvement of the mastoid cells, the free incision above described, whether an external operation appears probable or not, is imperatively demanded. It is a rational procedure, even if only done for temporary relief in the interval that commonly exists between our first examination of the case and the time set for the external operation, and as in two of the cases cited in my previous paper,[1] will sometimes, even in profound cases, make the more radical work unnecessary.

Antiphlogistic measures are supplementary to drainage, but serve as a great aid in controlling pus formation and inflammatory action. In those cases characterized by much pain and pushing forward the auricle from cellular inflammation in the soft tissues about the canal, hot injections and fomentations afford much relief; in fact, irrigating the ear with a quart of water at 115 degrees F. every 20 minutes is a most excellent treatment in such swollen conditions and serviceable in reducing pain in any stage, but as soon as relief is obtained, the application of constant cold seems to the reader more reliable for routine treatment. The temperature should be recorded every three hours to make plain sudden variations; in no event does it appear good policy to mask symptoms by opiates.

The Sprague ice bag kept properly filled and put on so that it is maintained in immediate contact with the skin over the mastoid is without question a most excellent antiphlogistic.

As I have mentioned in previous articles and in discussions at each opportunity during the past seven years,[2] ice applications, to be effective, should be constant, continuous and prolonged. There should be no marked intervals in the renewing, as often happens in our hospitals when the nurse takes the bag to refill but is interrupted by a call from another patient to which she attends before the ice is reapplied. Such an interruption in treatment may not occur more than twice in twenty-four hours, but unless we have been very specific in our directions this or some other lapse is apt to occur many times, and what is the effect? The parts at once begin to warm up, blood vessels to dilate and pus elements to multiply. If through an improved condition our drainage incision has partially healed, the opening will now prove too small, secretions will again become pent up, pain, tenderness over mastoid, swelling and temperature will increase, and we have to begin over again, for perfect drainage must be maintained. Under careless, haphazard conditions ice may not seem to do much good and I doubt if it does, but the fault does not lie in the principles of treatment; proper nursing would have brought the expected good results.

Ice applications are also serviceable to retard inflammatory activity until the surgeon can arrive and, if continued two or three days after the pain, tenderness and temperature have subsided, practically prevent relapses, though the patient is still human and may take a cold, but will again be amenable to treatment.

Personally, I often keep the parts under this constant low temperature until the discharge ceases, which in several severe cases has been accomplished in six days. In no case except one with tertiary syphilitic trouble has there been a relapse nor in any case a permanent loss of hearing.

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[2] See Transactions of the American Laryngological, Rhinological and Otological Society, 1898, p. 72; 1901, p. 208, THE JOURNAL A. M. A., 1899.

In a broad way we can safely assume that if the case is in an acute uncomplicated state when it comes under the care of the specialist he should be able to handle it without being forced to operate externally. Exceptions to this rule are possible and very proper if the symptoms be severe, and the patient will have to be left far removed from operative facilities, or if the required environments and nursing can not be secured.

Prolonged, subacute and chronic cases, or those giving a history of previous otorrhea, are liable to be accompanied by osseous changes, complicating conditions to the extent that unless the otologist is brought into the case early external operating becomes the wisest plan. On the other hand, acute cases without evidence of central involvement—acute cases having very pronounced local symptoms, located within easy reach and under good care—can be given more latitude. Infected lymphatic tissues about the external canal give startling external appearances without a real involvement of the cells. The fact that we have a tender mastoid, projecting auricle, prolapsed superior wall, high temperature and profuse discharge need not tell us to proceed immediately with the external operation; but it does tell us that we must at once improve the drainage and combat the inflammatory action. The argument that the facility with which the external operation, under mallet, chisel and curette, can be done on the usual skull, justifies us in securing drainage that way, loses weight when compared with the short anesthesia, slight shock, danger and expense of the internal operation.

In all those cases that come to the specialist late, with well-advanced to severe states, conservative plans of procedure must be followed by prompt improvement, and no plan should be instituted that is not aggressive and thorough as above outlined. In these acute but advanced cases a marked change for the better must occur at the end of thirty-six hours or external drainage should be secured; it ought to come within twenty-four hours if we have obtained proper drainage by the internal incision and the nursing has been up to requirements. Under no circumstance can an indifferent waiting plan be sanctioned; ultraconservatism is little less than criminal. A better education of the general practitioners on the importance of getting mastoid cases under skilled hands in the early stages is our privileged obligation, and we all can well unite in such a campaign. The possibilities of influence over mortality seems unlimited.

In conclusion, I would say: 1, A conscientious observation of my cases has impressed me with the great advantage we at once obtain over the disease if we secure such free drainage from the middle ear and attic that a tympano-canal incision will give; 2, while many cases will get well simply because we secure proper drainage, the constant and continual application of ice does much to reduce morbid activity and hasten recovery.

I recommend with great confidence the treatment herein outlined, and I believe that when once it is thoroughly tried your commendation and enthusiasm will equal my own.

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## DISCUSSION

### ON THE PAPERS OF DRS. GRADLE AND SNOW.

**Dr. J. F. Barnhill**, Indianapolis—I am a believer in the efficacy of aural drainage by dry treatment after the method Dr. Gradle has outlined, and I think that in such treatment we can in many instances cut short acute aural diseases, save hearing power and prevent possibilities of mastoiditis. One thing that ought to receive most careful attention from the otologist, before the paracentesis is made, is to have not only the knife and the hands of the operator aseptic, but also a careful cleansing of the external auditory meatus. The object of the operation is to secure drainage without infection from the outside, and if the external meatus is not thoroughly cleansed, suppuration is almost sure to follow. Hence my practice, before making a paracentesis, is not only to syringe the external meatus, but also to rub hydrogen peroxid into the hair follicles and the adjacent skin, to wash this away, and later mop with alcohol. After the paracentesis has been thoroughly done, I believe it is best not to wash the ear but to pack immediately with sterile strips of gauze. Unless the aurist is able to see the patient frequently, it is best to place a large piece of gauze over the external ear and hold this there by a roller bandage. Such a dressing as this may be left on twenty-four hours, and then it is not always necessary to change the strip which has been placed in the external meatus. The patient or his attendants should never be permitted to change this latter strip unless they have been thoroughly trained as to the aseptic method of doing it. If Dr. Gradle's method is carried out and the patient is seen often enough, it will certainly prevent that continuance of the discharge which too often follows rupture of paracentesis of the drum membrane. I concur in much that Dr. Snow said, but must we not often ask ourselves the question, does conservatism mean waiting in every case, and does it not sometimes mean early surgery? After we have secured the best drainage possible through the external meatus, and the pain still continues in and around the ear, we are not conservative if we wait long before doing a radical procedure. It seems to me probable that few otologists, if any, have sufficient experience in diagnosis to tell how far suppurative disease in the middle ear may have advanced. The depth at which the disease lies prohibits certainty of knowledge in many cases. The amount of discharge, the severity of pain or the absence or presence of fever can not indicate definitely what may be going on in the depths of the ear or the mastoid process. I have often opened mastoids when the patient had previously complained of little pain, there had been no fever, and yet the mastoid cells contained pus. In such cases it can not be conservatism to wait. In at least two cases I have felt that by conservatism I have lost the patient. By an operation done a few hours before death, I have been taught that conservatism is sometimes on the other side. Only a month or two ago I lost a case by meningitis in which if I had operated I would have saved my patient. But the patient's friends' conservatism lost me my patient. In that case there was nothing but a discharge from the ear, no pain and no fever. I feel that one of the greatest things done by a mastoid operation is to save the hearing of the patient. Probably you often have seen a patient with such a flow of pus from the ear that you could with difficulty keep it removed. You know the discharge comes not only from the middle ear, but also from the mastoid antrum and adjoining cells, and that it has found exit through the middle ear because this is the weakest point of its environment. Damage is done to the middle ear by the continual passage of this pus through its cavity, and if no other outlet be provided, and the disease allowed to become chronic, the tissues of the middle ear remain inflamed and thickened, adhesions are apt to occur, and a considerable loss of hearing power will be the inevitable result. In such a case if a mastoid operation be made early and the pus allowed to drain through the mastoid wound, the middle ear becomes dry in a remarkably short time, its structures are saved from deformity or destruction and the hearing power is well preserved.

**Dr. Samuel L. Ledbetter**, Birmingham, Ala.—In these acute conditions of middle-ear disease the results depend largely on the cause of the inflammation. In the spring of 1902, during an epidemic of middle-ear troubles from la grippe, sometimes the discharge would remain serous ten days or two weeks before it would change its character, and some cases would recover without the discharge becoming purulent at all. The engorgement was in all cases intense. All recovered without mastoid operation. Cases of intense middle-ear congestion will sometimes be relieved by ice applications, thereby preventing mastoid complication. I do not think it is best to wait for mastoid symptoms before using ice. As to preventing sepsis, I have seen cases that were treated most carefully become purulent in a short time. In others, where the drum had ruptured with no preliminary cleansing, recovery would sometimes occur without pus.

DR. EDWARD J. BROWN, Minneapolis—We agree that drainage is the important factor in these cases. In a discussion of this question two or three years ago a physician whose name I do not recall stated that in his practice he had displaced ice and hot fomentations by carbolic glycerin. I have since used the 10 per cent. carbolic glycerin instead of gauze in pus cases with great satisfaction. Cleanse the ear carefully, dry it, fill for five minutes with 1 to 1,000 bichlorid, then with the carbolic glycerin, ordering the latter renewed every hour or two, with use of absorbent cotton. I have used this carbolic glycerin constantly since 1889, when it was recommended by Arthur Hartmann, in his treatise on the ear, as a hot application for the relief of pain of acute otitis media.

DR. PHILIP HAMMOND, Boston—There are various factors that determine the way these cases will turn out. Much depends on the bacterial invasion of the mastoid cells, and of even greater importance is the arrangement of the cells. Experience shows that a diploetic arrangement of the mastoid cells gives rise to more serious troubles than any other kind. There are cases in which there is pus in the mastoid and even cases where the pus escapes down the mastoid muscle, in which the pus is absorbed. I have seen such a case, treated by a physician who might be called "conservative," in which the patient was left alone and the pus was finally absorbed. Another question is as to when the mastoid is infected. I believe it is infected from the very start. I have seen the mastoid opened early and I have never seen a case in which there was not infection as ascertained by culture, when this was made. In one case in which there was mastoid tenderness that had apparently subsided, there was later a chill, and the patient died despite an operation made at that time. Such cases lead us to be more radical rather than so-called "conservative." I wish to commend Dr. Snow's reference to the use of heat and cold in the treatment of the very early stages.

DR. GEORGE L. RICHARDS, Fall River, Mass.—While I recognize the absolute earnestness of Dr. Snow's purpose, I think there should be a word of warning. I know of a case in which there was a free incision of the drum membrane followed by the application of ice. The trouble apparently subsided and the patient went home. The next day there was a return of the trouble and an operation showed the bone broken down. The superficial cells were involved and the antrum had drained out. The ice had masked the infection of the superficial cells. In spite of every effort the patient died. Although I believe in very early incision and the use of ice during the first few hours, this treatment is not sufficient later in the disease. If one can not get good gauze drainage, it is better to syringe every hour or two with 1 to 2,000 or 3,000 or 4,000 bichlorid. I think ice should be abandoned after 48 hours. After one loses a case by over-conservatism he is willing to open the mastoid in every such case. The operation does not endanger life, and it would be safer to operate unnecessarily forty times than to lose a case from so-called "conservatism." Dr. Gradle speaks of putting a bandage over the ear. You can accomplish the same purpose by giving the attendant of the patient a number of pledgets of gauze or cotton and directing that they be placed next to the gauze wick and changed as often as they become moist.

DR. C. M. COBB, Boston—It does very well to be conservative, but I am absolutely certain that I have no means of knowing what is going on in there. If the discharge of pus or other symptoms continue, I feel there is pus under pressure, and possibly necrosis is taking place. The patient either lives or dies under "conservative" treatment without any reference whatever to the treatment after the first few days. Hundreds of those cases get well, regardless of the treatment employed, but I doubt if the ice after the first four or five days has any influence whatever.

DR. FRANK W. HILSCHER, Spokane, Wash.—I have been in the habit, in these cases, of stimulating the secretions and excretions by calomel and some aconite, belladonna, and small doses of opium. I fancy I have had good results from these measures in connection with other things mentioned. I therefore think that constitutional treatment should not be overlooked.

DR. D. A. KUYK, Richmond, Va.—I would like to report a case regarding the "conservatism" that has been mentioned. A little girl who had had scarlet fever about six weeks prior to my visit was suffering with middle-ear trouble. The physician in charge made ice and hot water applications. After over two weeks of this treatment I was called to see the case. I found the ear bulged out by a swelling over the mastoid. Three days later I operated and found five or six tablespoonfuls of pus and the whole mastoid a mass of disintegrated bone. When I left, the next night, the child was doing very well and had no temperature. If our "conservatism" had not been carried so far in that case the child would not have had to undergo so long a stage of convalescence.

DR. JOHN A. DONOVAN, Butte, Mont.—Following the advice Dr. Dench gives regarding the dangers of ice, and from some experience I have had, I consider ice absolutely dangerous, as a rule, after the first twenty-four to forty-eight hours. From the fact that I have recently lost two patients from late operation, I am considerably in favor of early operation in these cases. But some of these patients will not be operated on and many of them recover without any external applications.

DR. MAURY M. STAPLER, Macon, Ga.—I have had two cases with tenderness over the mastoid and involvement of the ear in acute inflammation. The drum membrane was intact. In these cases I used, instead of ice, adrenalin chlorid 1 to 1,000, applied in the canal and over the mastoid. I repeated the application for about two minutes, six times a day. That treatment was continued for two days, and both cases recovered. I can not say as to the relative value of the method.

DR. H. GRADLE, Chicago—It is pleasing to find most of the speakers in agreement with me. Still good authorities, especially European, are not so universally in favor of the "dry" method, and now and then we find articles in American literature referring to other methods of treatment that I must consider inferior. The course of an otitis depends on whether it is a staphylococcus or pneumococcus infection; and, secondly, on whether it is an idiopathic coryza, an influenza coryza or scarlet fever or some other condition which leads to the infection. Nevertheless, if we make it a habit to operate early, inside of twenty-four hours after the trouble begins, we can, with due care, keep a serous discharge serous, as a rule, and the cases will then be more uniform and less severe. Practically, we often see our patients only after perforation has taken place or only after several days of pain when we are compelled to perforate late. After pus has begun to form drainage by gauze alone is not so successful. Often it is better to syringe such cases. The pus is so stringy that drainage by gauze alone is not always sufficient. I can remember a case in German literature in which the patient died of a cerebral complication, in which the discharge was only serous. But personally I have not seen any complications in cases with a serous discharge. Where I can not see the patient often enough I have come to trust more to saturating the gauze in the ear with nitrate of silver solution (2 per cent.) for antisepsis. The external gauze I powder freely with boracic acid. Of course, the external auditory canal is sterilized as much as we are able to with carbolic acid. I believe sublimate solution is untrustworthy. I have the external ear dressed with gauze or cotton, preferably gauze, and it is changed as often as necessary. Dr. Snow's paper very well contends against unnecessary operations, but less conversant practitioners might err in carrying conservatism too far. Many doubtful cases recover without mastoid operation, but the risk they run is much greater than if we operate early. When there is only tenderness and possibly slight edema it is not necessary to operate in the first twenty-four or thirty-six hours. But if this continues longer than twenty-four or thirty-six hours "conservatism" should be abandoned. The thicker and the more profuse the discharge from the middle ear the more should we favor an early operation on the mastoid. I would consider the operation indicated even when the external symptoms, such as pain, are wanting, in case the discharge from the ear does not diminish gradually in the course of some ten or twelve days under efficient treatment. since such cases are likely to become chronic.

Dr. Sargent F. Snow, Syracuse, N. Y.—I have tried to make my position plain in this matter. I do not believe in ultra-conservatism. I do not believe in taking chances in subacute or chronic cases. I do not believe in taking chances in acute cases if we have extreme symptoms. But if it seems safe I advocate free drainage and the application of ice until we can see what is going to develop. If we do not get a prompt abatement of symptoms, we should operate promptly. We must not take chances. I kept the ice on from four to six days in cases that at once began to show improvement after the free incisions and I kept the ice on to continue the improvement. If we keep the mastoid tissue at such a low temperature, as we can safely, we certainly prevent morbid activity. The point made by Dr. Cobb about continuing conservatism too long is certainly most excellently taken. We must not continue conservatism too long. If the symptoms commence to rise again, we must at once find the cause. If there is retention of pus, we must relieve it at once. Then as to the safety of continuing the ice six or seven days; it is safe if the patient is making an uninterrupted recovery. In my experience the continuous application of cold does favor a complete resolution of the trouble. I do not advise it for any length of time. I have kept it on five or six days. In those cases where I took it off earlier I found the discharge increased and I had to enlarge the outlet or put on ice again. Then as to the influence of conservative recommendation on the general practitioner, I was afraid of that, myself, last year, and I have watched the effect of last year's paper with a great deal of interest. Since the paper has come out and the reprints have been distributed the number of practitioners who have sent me cases in the early stage has markedly increased. I have tried to emphasize the point that they must get the cases under skilled hands early. The diploetic mastoid is in that state in which it is unsafe to place much reliance on conservative efforts. I am very careful, in all the cases of chronic otorrhea that develop acute symptoms, to operate externally. The internal operation is applicable only when done very early.

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# DIABETES MELLITUS;

## THE LIMITATIONS OF ITS DIETETIC TREATMENT.*

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Over 100 years ago Rollo pointed out the supreme importance of diet in diabetes, and demonstrated that by restriction of the carbohydrate principles of food sugar could be made to disappear from the urine and a general improvement in the patient's nutrition result. In elaboration of this principle, Bouchardat laid down in their minutest details the rules of the dietetic regimen, and ever since, and until a very recent date, discussion has only been on points of minor importance, such as the eligibility of certain foods or beverages for introduction into the various dietaries, strict or moderate. This, our most valuable means of combating the diabetic dystrophy, was conceived in empiricism, and, until comparatively recent times, was practiced empirically, the only guide being the results obtained—the fluctuations of the glycosuria and the state of the patient's general well-being. It may be said that these indications, to a large extent, still govern our procedure, but, thanks to the work of Von Noorden, Rubner, Hutchinson and Atwater, we are now able to base our dietetic prescriptions on a physiologic foundation. The scientific justification of the dietetic treatment of diabetes may be said to be established beyond question, and the details of procedure have been well elaborated; still, to the profession at large, much is wanting in a proper understanding of its principles, and more especially its limitations.

I think it may, without prejudice, be maintained that we have not yet reached the point where we may hope, by means of any at present known remedy or combination of methods, to cure the disease. The diabetic dystrophy is too deep-seated and involves too intimately and seriously the intra-organic nutritive processes for us to hope to correct the perversion by the exhibition of drugs, or to in any way effect more than palliative results.

One result of this symptomatic treatment, to which our disappointment in attempts at specific medication has forced us, is that we have come to attach too much importance to the glycosuria and, forgetful of the fact that this is but one, and by no means the most important, manifestation of the disease, we have bent our energies toward suppressing the excretion of sugar, without full regard for the welfare of the patient in other respects. It is absolutely necessary at the outset to realize that the glycosuria *per se* is capable of little harm; that it is the systemic condition of which glycosuria is but the outward sign that is the threatening element, and that it is to the general nutritive state we must look for the indications which are to guide us in our treatment, and not to the amount of sugar in the urine.

It is not my wish to depreciate the value of controlling the glycosuria, but rather to emphasize the importance of looking farther for results than in the urine.

Removal of the sugar from the urine, unfortunately, does not mean cure of the disease, otherwise we would all have many recoveries to our credit. What is required for cure is a restoration of the assimilative power and improvement in general strength and well-being, and in proportion as these are brought about, we may know that we are succeeding in our treatment.

However authorities may differ regarding the pathogenesis of diabetes, the chemistry of the perversion is coming more clearly into view, and its harmful influence on systemic nutrition is better understood. As with all other nutritive diseases, we have as the essential feature of the diabetic state a hematic dyscrasia, characterized by an excess of glucose and the presence in the blood of various toxic bodies, the outcome of excessive and abnormal proteid metabolism. These factors are potent influences in bringing about deranged tissue states and are probably supplemented in that direction by defective nervous action, always a more or less prominent attendant on diabetes. These influences do not prevail to an equal degree in all cases of the disease, different cases presenting great divergence in intensity and rapidity of progress. The laboratory student would have us regard glycosuria as but syndromic, the mildest differing not in kind but merely in degree from the severest form. The clinician, on the contrary, divides his cases into two distinct classes, mild and severe, recognizing the difference between a slight controllable glycosuria with the patient but mildly ill, and the intractable and rapidly progressive disease with its invariably fatal termination. This broad clinical division, although somewhat arbitrary and lacking in specification, has become established by custom and is universally recognized by clinicians. The mild type of diabetes may be defined as an impairment of the power of the organism for assimilating the carbohydrate principles of food, so that hyperglycemia results and sugar appears in the urine. The various symptoms encountered depend for their origin on the presence of sugar in pathologic amounts in the blood. When the glycosuria is controlled by reduction of ingested carbohydrates, more or less prompt subsidence of all symptoms ensues in this form of diabetes.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. S. Solis-Cohen, George F. Butler and N. S. Davis, Jr.

A striking contrast to this ready control is presented by the severe form of diabetes, which undergoes comparatively little abatement in severity, even after complete withdrawal of carbohydrates from the diet, sugar still appearing in the urine, showing that the sugar-splitting function of the cells is so gravely impaired that the carbohydrate moiety of the proteid molecule can not be utilized in the economy. Progressive emaciation, polyphagia and a gradually deepening toxemia characterize this form of the disease, which presents such varied and marked contrasts to the mild type as to apparently stamp it as an entirely different pathologic process.

In the severe grades of diabetes it is generally accepted that the sugar is derived from the systemic albumin as well as from the carbohydrates of the food, whereas in the light form it comes entirely from the latter source. From an etiologic point of view, the dietetic treatment should, in many respects, be different in the two forms. In the severe all that can be accomplished by the antidiabetic diet is some reduction in the amount of circulating sugar. We can not hope to suppress the glycosuria or control the dystrophy. The utmost we can accomplish by diet is to control somewhat the glycemia and toxemia, and thus, by establishing within the body a closer approach to normal, haply effect some augmentation of strength and preservation of body albumin. In the mild form of the disease, which is an affair of starch malassimilation, to control the glycosuria by adaptation of the diet is only a rational procedure, and can not be otherwise than right. The passage of sugar that can be controlled by diet means the infliction of unnecessary harm on the tissues, and this stands in proportion to the amount of sugar that escapes combustion and is carried off by the urine.

The work of physiologic chemists shows that the diabetic converts just as much potential energy into kinetic force as the healthy individual, there being no difference in this respect between them. The diabetic is handicapped in a nutritive way, however, because of the great loss of sugar, a valuable heat and energy-producing material, by the urine, a loss which must be compensated by increased destruction of body tissues. The destruction of albumin is in this manner greatly increased, and as a result we have much augmented elimination of nitrogen and the progressive loss of weight and strength, which is so noticeable a feature of diabetes. In examples of the severe grade of diabetes there usually exists along with the breaking down of body albumin a collateral formation of organic toxins of acid character, which in their turn complicate the nutritive problem by a disturbing effect on cell protoplasm. It is this tissue waste and its attending toxemia which constitute the real danger in diabetes. Were it not for this, glycosuria would be nothing more than a disagreeable symptom with no immediate dangers, but merely remote and somewhat uncertain secondary effects.

Preservation of body albumin, under all circumstances, must constitute the standard which is to guide us in our regulation of the diet, and the endeavor must be to not only maintain the strength, but, as far as possible, add to the store of bodily energy. When viewed in this light, the body weight becomes the criterion of our success, and not the amount of sugar in the urine.

Some diminution of bodily fat is an inevitable attendant on any restriction of the diet in diabetes, and this may not be wholly undesirable in obese subjects, but it can not be allowed to proceed beyond a certain limit, even in these cases, without detriment to the general health. According to Von Noorden, in order to assure the preservation of body albumin, an amount of food adapted in accordance with general physiologic laws to the needs of the economy is necessary. If the amount sinks below these needs, that is to say, below the output for the time being of the organism, the deficit must be met by a levy, not only on the fats, but also on the albumin of the body.

By reference to Von Noorden's tables we find that a man taking moderate exercise consumes nutritive material to the value of 3.5 calories per kilogram a day. In the case of a man of 70 kilograms (154 lbs.), the average of daily consumption would be represented by about 2,500 calories. The diet must be regulated so as to provide nutritive material to cover this total.

It has been estimated that in health man obtains from 40 to 50 per cent. of the total number of nutritive calories from the carbohydrate principles of food, the remainder being about equally divided betwen the fats and the proteids. In the diabetic state the system is not only deprived to a large extent of the immense nutritive benefit of the carbohydrates, but, as Pavy has pointed out, the effect of this class of food is diametrically opposite to its influence in the healthy state, for instead of contributing to the increase or maintenance of weight, it leads to decrease in weight, through stimulating waste and inducing a wrong state of the system by the abnormal presence of sugar in transit in the blood. Some substitutes must, therefore, be found to take the place of the carbohydrates, and to accomplish this one has to choose either proteids or fats. The net calorie value of various food classes has been estimated by Kleen as being for proteids, 3.2 cal.; fats, 8.4 cal., and carbohydrates, 3.8 cal. in healthy subjects, and usually as much in diabetes, minus, of course, the loss by glycosuria in the latter case.

Our ideas as to the relative value of food constituents as energy producers have undergone considerable change in the light of recent physiologic observations. It was formerly believed that proteids were the principal source of bodily energy, whereas carbohydrates and fats contributed chiefly as sources of heat. It is now known that carbohydrates and fats, as well as proteids, supply energy to the body, and that, moreover, it is a matter of indifference, so far as the ultimate result is concerned, which food is supplied to the organism, provided it be given in amount proportionate to its dynamic equivalent. Heat is a sècondary product, the result of cellular activity.

So far as these deductions carry us, the solution of the nutritive problem in diabetes would seem to consist simply of a proportionate increase in the amount of proteids and fats of the food, so as to meet the caloric demands of the organism. The necessity which we have to face, however, is not merely one of substitution for carbohydrates, but a multitude of difficulties complicate the problem. Some means must be devised to terminate the abnormal albumin breaking down, which is so frequently a result of the constitutional vice. Moreover, the digestive welfare of the patient must be duly taken into account, otherwise anorexia, disgust and dyspepsia will vitiate the good effects of our endeavors.

Proteids are the only food elements capable of repairing and building tissue and at the same time producing their quota of energy and heat. It would seem, therefore, that proteids are ideally qualified to act as the mainstay of the diabetic. Certain objections to the excessive use of meats and albuminous foods in the diabetic dietary must be given due consideration. Not only are albuminous foods of themselves an insufficient source of energy for the permanent maintenance of the body, but in the severe form of the disease proteids are known to add to the glycemia by means of the carbohydrate, which is an integral part of the proteid molecule. On this account many cases of this form of the malady are found to do badly on an animal diet. Proteids, moreover, have the effect of stimulating nitrogenous metabolism, and in the excessive destruction of albumin, acetone and other acid toxins are formed which are most prejudicial to the patient's nutrition, and strongly predispose to the development of coma. A less important but still valid objection is that bacterial putrefactive changes of the proteids in the intestines are apt to add materially to the toxemia. Proteids can not be said, therefore, to be conservors of the body tissues in diabetes, but, on the contrary, may, by stimulating nitrogenous waste and increasing the toxemia, prove to have a directly opposite effect. What is needed is true conservation of the tissue albumins, and to accomplish this we must have recourse largely to carbohydrates and fats.

Fat is a compact source of energy, yielding, as we have seen, more than twice as many calories as proteids. It possesses the advantage of not being available as a source of sugar in the economy, as proteids are, and consequently can not add to the hyperglycemia or glycosuria in any stage of diabetes. An additional advantage possessed by fats is that they can, to a considerable extent, fulfill the function of carbohydrates as albumin-sparing bodies, and in this manner they aid materially in the preservation of weight and tissue.

Certain obstacles to the employment of fats in large quantities in the diet exist. They possess a lower percentage of absorption than either of the other two food classes, are more difficult of digestion and less palatable, being apt soon to disgust the taste, so that their availability becomes greatly restricted. For these reasons, notwithstanding their high calorie value, fats can not be ingested in sufficient quantity to cover the expenses of the economy. They do, however, contribute very materially thereto, and richness in fats may be said to be the leading characteristic of the diabetic diet. They are made available to the p ployment of various expedients simultaneous use of carbohydr has been found by experience that their palatability and digestibility are greatly enhanced by this association. Fortunately, all diabetics utilize some portion of ingested carbohydrates, and the calories thus gained contribute better than any other to the protection of the systemic proteids. It is, therefore, never necessary to entirely exclude from the diet this class of foods, the extent of their allowance being a matter of the patient's capacity for assimilating them and the form in which they are permitted. The permanent exclusion of carbohydrates from the food can not be effected, because without them, no matter how careful our arrangement of the dietary may be, the supply of available calories is never sufficient for the systemic needs, excessive tissue breaking down resulting to supply the deficiency, and emaciation and organic toxemia follow.

Authorities are in general accord in condemning the attempt to enforce the absolute non-saccharin diet, except perhaps for a brief period to accomplish some special result. This rule holds good in all forms of the disease. In the mild forms of diabetes, some power of starch assimilation is invariably retained, and to withhold carbohydrates entirely is to deprive the patient unnecessarily of a valuable source of energy. In the severe forms of the disease, not only do carbohydrates entirely fail of assimilation, but at the same time the systemic powers are unable to utilize the carbohydrate constituent of the albumin molecule, which acts on the blood and urine identically as does grape sugar derived from other sources. It becomes apparent, therefore, that too close restriction will avail nothing and merely result in jeopardizing the systemic tissues. As a matter of fact, it becomes as necessary, in the severe stage of the disease, to restrict the nitrogenous exchange as to limit the ingestion of carbohydrates, and in the presence of acid toxemia it is advisable to make an attempt to spare the systemic albumin which is being sacrificed, by free introduction of carbohydrates. It is to be remembered in severe diabetes that it is better to temporize with a glycosuria on a mixed diet than to force an autophagy by overstrictness, for we may fail utterly to subsequently cope with the dystrophy, which has thus received a fillip through our zeal. The weight of authority is unequivocally opposed to a too rigid nitrogenous regimen in all forms of diabetes, but especially in the severe form, it having been proved that acetone and acid toxins result from such a measure. Coma has been precipitated by the sudden institution of a strict non-starchy diet.

It becomes apparent from the foregoing considerations that the course to be pursued in the dietetic treatment of diabetes is, in the amenable stages of the disease, to allow the patient as liberal an allowance of carbohydrates as the patient can assimilate, and in the severe stages as much as is found necessary to hold in check the dystrophic advance, bearing in mind the important fact that carbohydrates only act as albumin-sparing bodies when their ingestion is followed by at least partial assimilation. At the same time every artifice must be employed to introduce the largest amount of fat that the patient can take. If this method is pursued it does not become necessary to restrict the nitrogenous elements of food, for by the judicious introduction of carbohydrates and fats little necessity exists for excessive devotion to any one class of foods, and seldom is the patient led into overindulgence in animal foods. The point is frequently made that it is as necessary to limit the quanity as it is the quality of the foods in diabetes. It ems to the writer an unnecessary cruelty to limit the amount of available foods to these patients, for the bulimia is the outcry of starved tissues, deprived of the food values necessary for their preservation, and to meet this tissue hunger by further starvation seems both cruel and unscientific. A better solution of the difficulty is reached by adjusting the diet, as far as possible, so as to provide sufficient food calories for the systemic needs in easily available forms, such as carbohydrates, fats and alcohol, and when this is successfully accomplished the excessive craving for food disappears.

Some argument exists as to the propriety of suddenly instituting a strict non-starchy diet, even for temporary experimental purposes, to determine the patient's assimilative powers. In decidedly toxic cases, experience has proved that an increase in the acetone and acid toxins is inseparable from the strict diet, and the liability to coma is greatly increased by such a measure. The question of the extent of our restriction seems to be one entirely of the phase of the disease. The general rule may be given that if on a mixed diet the patient's urine does not yield the ferric chlorid reaction one may without danger restrict the carbohydrates. If, on the contrary, the ferric chlorid reaction be present it would be a great mistake to attempt the strict or absolute diet. In such cases there is no physiologic warrant for persisting with diet in the hope of removing the glycosuria. In the most favorable cases of mild diabetes, the absolute diet can not be followed for periods of longer than a few weeks or months. It will generally be found that patients who are fat and not nervous and who have good digestions will bear better the strict diet. Instead of following a blind routine, we must individualize as much as possible and treat each case, so far as indications will lead us, on its own merits. The advantages to be gained by dieting in diabetes do not alone consist in the control of the hyperglycemia and its effects, but experience has proved the important fact that patients who have, for a certain time, been on a diet containing no carbohydrate often acquire a tolerance for these elements and excrete much less sugar after a return to carbohydrates than they did before. The fact has been especially emphasized by Von Noorden, Naunyn, Pavy and Weintraud that the sugar-consuming function of the body is spared by the temporary withdrawal of carbohydrates, and is thus given the opportunity for some recovery and restoration. We avail ourselves in this manner of the important therapeutic principle of rest in subduing functional disturbance. It is impossible, however, to predict an improvement in assimilative capacity after dieting. The reverse may take place. Magnus Levy reports four cases in which prolonged withdrawal of carbohydrates had developed a reduced tolerance for this class of food.

It will be found desirable to place cases on the strict diet for periods of three or four weeks, once or more each year, so as to afford relief to the eliminating organs and rest to the assimilative functions. Beyond this, experience has taught us that even if we exceed somewhat the tolerance for carbohydrates, no great harm is to be feared, since it is not the slight but the excessive glutting of the system with sugar that we must avoid.

103 State Street.

## DISCUSSION.

Dr. Henry Beates, Jr., Philadelphia—If we could only impress on every member of the profession the necessity for demanding elaboration of the so-called fundamental sciences included in the medical curriculum, much would be done to solve, as has been done by the reader of this paper, the complex problems in therapeusis. Experience has taught me that that physiologic teaching prevailing concerning the three types of food is either imperfect or frequently slighted and is commonly absolutely erroneous. Only a small percentage of the profession has a proper conception of these things, and more diabetics have been prematurely brought to their graves because of the pernicious dietetic treatment prescribed than would have been the case had they been left alone. As Dr. Cohen remarked a few moments ago, "What is the dose of anything? Enough." That physician who will cultivate the skill to give enough and only enough of each of the three types of food in treating diabetes mellitus will score that success which it is possible only for scientific medicine to achieve. The paper has, therefore, contributed largely to the knowledge of the scientific treatment of diabetes mellitus, and is an illustration of the need for proper teaching and for the elaboration of the applied phases of the not yet sufficiently appreciated fundamental sciences of chemistry and physiology.

Dr. A. C. Croftan, Chicago—There is great confusion to-day in the mind of the average physician in regard to the question of food and food values. Our knowledge of the fate of foods is still in a more or less rudimentary state; we have only gotten to the point where we consider, on the one hand, the ingested food, and on the other the eliminatory products, so far understanding without the intermediary of food dissimilation. Thirty or forty years ago when a case presented sugar in the urine it was said that sugar must be eliminated from the diet. This recommendation was based on the belief that the food-sugar was the only source of the urinary sugar. Nowadays we know that sugar is formed from the catabolism of fats and albumins, and that a certain proportion of carbohydrate is always required to maintain full nutrition. If sugar is completely excluded from the diet the organism is simply forced to manufacture it from the albumins and fats of its proper tissues. Diabetics should therefore have some carbohydrate, but how much is the great question. I think the solution of this exceedingly difficult problem is to undertake to feed the patients quantitatively, i. e., to take each case individually and to show the ingestion and excretion of sugar quantitatively, and to arrange the diet accordingly. The following has been my habit: First I deprive the patient of all carbohydrates for a short time to determine the sugar excretion, and then slowly, by weight, increase the amount of sugar until I get a small increase in the excretion of sugar. I keep the patient at this point, and do not try to get rid of all the sugar. I figure out that the calorie value of the total food, and allow, on the above basis, as liberal diet of carbohydrates as possible. A point which I think is most pernicious in practice to-day is to content ourselves with a purely qualitative regulation of the diet. We must use our tables, heat values; we are as little justified in guessing here as anywhere else. In one thing I do not agree with the essayist: that is that the weight-test should supplant the sugar-test in diabetes; for if we gauge the results of our treatment of these cases from fluctuation in their weight we may be misled. There are cases in which, as we might express it, the sugar is not excreted in the urine as dextrose, but is converted into fat and deposited in the tissues as fat. These patients gain in weight, but they are suffering from diabetes as much as if there were abundant glycosuria with loss of weight, and the diet should be regulated accordingly. The matter can be regulated with mathematical precision and we should not be willing to incur the risk of underfeeding our patient; that is an error that is committed in a great majority of the cases submitting to a strict régime. Many diabetics and nephritics do not feel very sick, nor do they actually begin to fail, until they consult a physician and are promptly placed on a routine diet that slowly but unerringly starves them to death and robs them of that little reserve of resisting power they may possess.

Dr. O. T. Osborne, New Haven, Conn.—I approve every item in the paper, and I agree with Dr. Beates that a large number of diabetics live along [illegible] until they are examined for life insurance and [illegible] is di[illegible] then [illegible] lent. Heat is a secondary product, the result of cellular activity.

So far as these deductions carry us, the solution of the nutritive problem in diabetes would seem to consist simply of a proportionate increase in the amount of proteids and fats of the food, so as to meet the calorie demands of the organism. The necessity which we have to face, however, is not merely one of substitution for carbohydrates, but a multitude of difficulties complicate the problem. Some means must be devised to terminate the abnormal albumin breaking down, which is so frequently a result of the constitutional vice. Moreover, the digestive welfare of the patient must be duly taken into account, otherwise anorexia, disgust and dyspepsia will vitiate the good effects of our endeavors.

Proteids are the only food elements capable of repairing and building tissue and at the same time producing their quota of energy and heat. It would seem, therefore, that proteids are ideally qualified to act as the mainstay of the diabetic. Certain objections to the excessive use of meats and albuminous foods in the diabetic dietary must be given due consideration. Not only are albuminous foods of themselves an insufficient source of energy for the permanent maintenance of the body, but in the severe form of the disease proteids are known to add to the glycemia by means of the carbohydrate, which is an integral part of the proteid molecule. On this account many cases of this form of the malady are found to do badly on an animal diet. Proteids, moreover, have the effect of stimulating nitrogenous metabolism, and in the excessive destruction of albumin, acetone and other acid toxins are formed which are most prejudicial to the patient's nutrition, and strongly predispose to the development of coma. A less important but still valid objection is that bacterial putrefactive changes of the proteids in the intestines are apt to add materially to the toxemia. Proteids can not be said, therefore, to be conservors of the body tissues in diabetes, but, on the contrary, may, by stimulating nitrogenous waste and increasing the toxemia, prove to have a directly opposite effect. What is needed is true conservation of the tissue albumins, and to accomplish this we must have recourse largely to carbohydrates and fats.

Fat is a compact source of energy, yielding, as we have seen, more than twice as many calories as proteids. It possesses the advantage of not being available as a source of sugar in the economy, as proteids are, and consequently can not add to the hyperglycemia or glycosuria in any stage of diabetes. An additional advantage possessed by fats is that they can, to a considerable extent, fulfill the function of carbohydrates as albumin-sparing bodies, and in this manner they aid materially in the preservation of weight and tissue.

Certain obstacles to the employment of fats in large quantities in the diet exist. They possess a lower percentage of absorption than either of the other two food classes, are more difficult of digestion and less palatable, being apt soon to disgust the taste, so that their availability becomes greatly restricted. For these reasons, notwithstanding their high calorie value, fats can not be ingested in sufficient quantity to cover the expenses of the economy. They do, however, contribute very materially thereto, and richness in fats may be said to be the leading characteristic of the diabetic diet. They are made available to the patient through the employment of various expedients, chiefly by means of the simultaneous use of carbohydrates and alcohol, for it has been found by experience that their palatability and digestibility are greatly enhanced by this association. Fortunately, all diabetics utilize some portion of ingested carbohydrates, and the calories thus gained contribute better than any other to the protection of the systemic proteids. It is, therefore, never necessary to entirely exclude from the diet this class of foods, the extent of their allowance being a matter of the patient's capacity for assimilating them and the form in which they are permitted. The permanent exclusion of carbohydrates from the food can not be effected, because without them, no matter how careful our arrangement of the dietary may be, the supply of available calories is never sufficient for the systemic needs, excessive tissue breaking down resulting to supply the deficiency, and emaciation and organic toxemia follow.

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It becomes apparent from the foregoing considerations that the course to be pursued in the dietetic treatment of diabetes is, in the amenable stages of the disease, to allow the patient as liberal an allowance of carbohydrates as the patient can assimilate, and in the severe stages as much as is found necessary to hold in check the dystrophic advance, bearing in mind the important fact that carbohydrates only act as albumin-sparing bodies when their ingestion is followed by at least partial assimilation. At the same time every artifice must be employed to introduce the largest amount of fat that the patient can take. If this method is pursued it does not become necessary to restrict the nitrogenous elements of food, for by the judicious introduction of carbohydrates and fats little necessity exists for excessive devotion to any one class of foods, and seldom is the patient led into overindulgence in animal foods. The point is frequently made that it is as necessary to limit the quantity as it is the quality of the foods in diabetes. It seems to the writer an unnecessary cruelty to limit the that term to cover a large series of cases, but that they are cases of acute pancreatitis, and that we delude ourselves by calling them diabetes. Cases dying of "diabetes" do not all have diabetes, but some have pancreatitis. Within the last year or two I saw a young man who, within three months after an attack of typhoid fever and when well enough to travel, when fifteen hundred miles from home, was comparatively suddenly seized with this sudden loss of weight and strength and the appearance of sugar in the urine, and I said it was a case of acute pancreatitis. The patient died, but no autopsy was held.

DR. W. W. TOMPKINS, Charleston, W. Va.—In West Virginia I have frequently asked older physicians about diabetes in the negro. Although possibly one-fourth of our population is of the negro race, and although they have typhoid fever and the other serious diseases from which we suffer, I have never seen a case of diabetes in them, nor could I find another practitioner who had done so. Before the war insanity was unknown among the negroes, but since that time it is not uncommon. Has Dr. Elliott ever personally treated diabetes in the negro?

DR. A. R. ELLIOTT—I have never seen a case of diabetes in the negro. Dr. Tyson a few years ago stated that he had never seen a case in the negro. It is extremely rare in the negro, but common among other colored races, as the East Indians. I agree with Dr. Webster that glycosuria of a pancreatic type may be brought about as a result of typhoid fever. It seems to me reasonable to suppose that inasmuch as the infection may spread from below up the common bile duct to the gall bladder and liver, we may also have an infection spreading over to the pancreas with resulting inflammatory changes in that organ. In regard to the further investigation of the occurrence of ulcers in the bowel in diabetics, I have no information. It is well known that colitis is a very frequent complication in diabetes, produced no doubt by the irritation of hardened fecal matter in the lower bowel. For this reason it has always seemed to me one of the most important therapeutic measures to keep the lower bowel well cleared of fecal matter by enemata to prevent any tendency to coprostasis. I agree with Dr. Beates that many patients are overdieted, and sometimes rue their consultation with physicians. It is not uncommon to hear an old diabetic regret that he ever consulted a physician because, whereas he was in good health before that time, he has suffered ever since in the attempt to combat the disease by dieting. That is unquestionably due to a misconception of the dietetic problem, and the patient is unwarrantably condemned to a strict diet. I believe the attention of the profession is focused entirely too much on the glycosuria, and my general statement that the weighing scales are a better criterion for success in our practice than the presence of glycosuria I believe is true. I am glad to accede the point made by Dr. Croftan that this statement is capable of exception. Since I wrote this paper a case has come to my attention to refute my own statement. In a young girl who has been diabetic for a year and a half, the disease has assumed a vicious toxic form, and diacetic acid and acetone are present in the urine; yet she is gaining in weight. She is very toxic, and her breath smells of acetone.

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# EMPYEMA OF THE ANTRUM.[*]

O. N. HEISE, M.D., D.D.S.

CINCINNATI.

In looking over the literature of the above-named subject I have again and again been impressed by the few references to the difference between a cystic empyema, so called, and a true empyema, the one being due to the encroachment of a dentinal or alveolar cyst to the antrum, the other a true infection of the antrum either from dental or nasal origin.

In an article on empyema of the antrum in one of our leading dental journals not long ago I noticed a statement as follows:

> Within the last few years a comparatively new affection, frequently confounded with antral empyema, has appeared. Dentigerous cysts arise as you know about the tooth roots and slowly dilate the tissue at the root of the tooth.

I quote this principally to show that affections of the teeth and alveolar process in relation to antral troubles do not receive the attention they deserve. If the author of that article had taken the trouble to inform himself he would have found that it was not a new affection, also that a dentigerous cyst is a different condition of affairs from that he states it to be.

These maxillary cysts, when found in the neighborhood of the molars and bicuspids can, and do, in their development, raise or push the floor of the antrum to such an extent that finally the thin intervening lamella of bone is resorbed, leaving only the periosteum and the lining mucous membrane of the antrum as a covering. I have often seen the encroachment such as to include the entire antrum, filling it completely, in its further development raising both outer and inner wall, as well as the roof.

Antral cysts developing within the cavity must of necessity first completely fill it before they can produce any abnormality in the way of bulging of either wall, and can, I think, be recognized as having their origin from within, instead of having developed within the alveolar process. The facial wall, being extremely thin, owing to the resorption of the bone, leaves at times a decided defect in the wall, whereas in the dental or alveolar origin the thinness of the wall is found to be in the alveolar region or process. They are more frequent than has been supposed, not only in connection with antral lesions, but in other regions of the alveolar process; both in the upper and lower maxilla. Many an abscess has been treated with little or no success, tooth finally extracted, socket curetted, packed, etc., thinking it to be either a case of caries or necrosis; whereas, if the proper diagnosis had been made, the tooth could easily have been saved by proper treatment, especially the single-rooted teeth.

The domain of the stomatologist runs very closely into that of the rhinologist. Every now and then in the treatment of an obstinate antral suppuration we find that the trouble is not so much in the antrum as in some of the accessory cavities, draining into the antrum, making a reservoir, so to speak, of it, treating only the effect, not the true cause in such instances. This fact, and also the frequent occurrence of empyema after la grippe, has led some men to almost doubt the dental origin of antral empyema. There is no question at all in my mind that many antral cases are primarily due to infection from some accessory cavity, or other nasal disease. Nevertheless, dental causes are, and will remain, prominent etiologic factors.

The difference of opinion as to the main causation of antral empyema depends greatly on the view-point taken. Reminding one of the oriental story of the three blind men who went one day to inspect an elephant: "He is like a spear," said one who grasped the tusk; "he is like a fan," said another who felt the ear, while the third with his hand on the leg declared he was like a tree. They had all inspected the elephant, but, naturally, formed different ideas of his appearance. So it is with the etiology of antral empyema. Various observers form various views from various experiences, while if all would inspect every case and judge of its cause and treatment on its own individuality it would be seen that there is ample room for all opinions in considering this interesting subject.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

I will not discuss which etiologic factor, nasal or dental, is most frequently found to be the cause of antral suppuration, but it has seemed to me that of late the dental relationship to antral empyema has been somewhat overlooked, not only being frequently the cause, but having a decided influence in keeping a certain amount of irritation, thereby preventing a complete cure. I want, therefore, to bring this phase of the subject to your notice.

That many affections of the nasal cavity and antrum are due to diseased teeth, etc., is not to be doubted. Not only abscessed teeth, but oftentimes carious and even filled teeth, especially the superior incisors, are the cause of nasal disturbances. Ziem of Danzig was one of the first to point out the important relationship existing between diseased teeth and abnormalities of the nasal mucous membrane and antral troubles. He reports a number of cases showing that any carious tooth in the superior maxilla and sometimes even in the inferior maxilla, can by reflex action bring about hypertrophic rhinitis, and sounds a note of warning against the imperfect treatment of carious and diseased teeth, especially the molars and bicuspids. It was due to his investigations that in the year of 1886 the real impetus to the study of antral empyema was given, showing conclusively that they were far more common than heretofore supposed or believed—Ziem himself being a sufferer from an antral empyema due to a diseased tooth. He also was the first to designate the condition, "empyema of the antrum," which, however, is not altogether a correct term, inasmuch as an empyema from a pathologic standpoint is a collection of pus in an enclosed cavity of the body. In the so-called empyema of the antrum we have the collection of pus, but not in a completely enclosed cavity, as we have a continual or an occasional discharge of pus from it. It is useless, however, to find fault with the term until we have a better and more appropriate one to apply to it.

Since Ziem's first important contribution to this subject and the other accessory sinuses of the nose, Zuckerkandl's numerous dissections, as well as P. Heymann, Moritz, Wolf, Harke and others, it has been shown that diseases of the accessory sinuses are anything but infrequent; in fact, they are the rule almost in acute infectious diseases, but, fortunately, will—if the natural openings are normal and not closed by some diseased condition of the nose—end in a spontaneous cure. That some do not end this way is due, according to M. Schmidt and E. Fränkel, "to the varying virulence of the bacteria and the individual disposition of the patient." It is, however, "rather strange," as pointed out by M. Schmidt," "that the various sinuses being so frequently affected in cases of la grippe, should show the presence of the influenza bacillus so seldom—only in 1 case out of 30," according to E. Fränkel's examinations.

Grünwald has well said:

> The great frequency of inflammation of the antrum of Highmore, which follows from the anatomic position of the cavities, rendering them liable to infection by the extension of a process from the inferior turbinate, and favoring the isolation of the morbid process within them by the swelling of the surrounding tissues, and by the high position of the office above the floor of the cavity is enhanced by the proximity of organs like the teeth that are so prone to become diseased. Accordingly, infection of the antrum of Highmore derived from a diseased pulp by way of the lymph channels, and catarrhal condition due to irritation accompanying coronal caries, are common and inversely; catarrh of the antrum may give rise to periodontitis and thus establish a vicious circle, so that the antrum disease persists even after other causes have been removed. As infection creeps along the lymphatics of healthy bone, a focus of infection in the crown of a tooth is by no means to be despised; for even if an empyema of the antrum be due to another cause, yet disease of the crown of a tooth is calculated to maintain such a state of irritation in the mucous membrane as may frustrate all attempts at a cure.

The apparent non-attention on the part of a great many practitioners to the influences that diseased teeth, as well as diseased conditions of the gums and alveolar process have, not only as an etiologic factor, but in maintaining a process once set up in the antrum, is a matter which demands our attention.

In an excellent article on the Heilbarkeit der Kieferhöhlen entzündungen[1] Grünwald gives very interesting and convincing statistics regarding the influence of the teeth in the treatment of antral affections, namely:

> In 31 antra of 20 patients who had sound teeth, or apparently so at least, 39 per cent. were cured, 23 per cent. almost cured, 16 per cent. improved and 23 per cent. unimproved; whereas in 28 antra of 19 patients, in whom the decayed teeth influencing the condition of the antrum were extracted, 65 per cent. were cured, 17 per cent. almost so, 14 per cent. improved and only 5 per cent not cured.

Grünwald explains that "in cases of those patients having apparently sound teeth there must have been some diseased condition present, in the way of a periodontitis, which was, and is, often overlooked in cases, even by dentists," as he on a number of occasions referred the patient to them, and they refused to extract the tooth or teeth on account of the apparent soundness of them. The chances of overlooking any connection or influence that apparently sound teeth have in keeping up the suppurative process are much greater, as it is easy to overlook a diseased condition of the roots of the teeth—whereas, in the cases where teeth were found to be diseased, and either acted as a direct cause of the empyema, or were to a certain extent responsible for the original trouble in the antrum, or in keeping up the suppurative process, the extraction of them alone was a prime factor in the cure of the affection, but does not of itself in the majority of cases suffice to bring about a complete cure, inasmuch as the mere puncturing of the antrum does not show any brilliant results.

That not enough attention has been bestowed on this matter has been shown by the fact that in a number of cases treated according to the accepted methods of to-day suppuration would persist until the teeth involved in keeping up the process had been extracted, showing conclusively that although they might not have been the original cause of the suppuration, nevertheless they were active factors in preventing a complete cure. Grünwald also cites a number of cases to show the important relationship existing between diseased teeth and suppuration of the antrum.

There seems, however, to be a decided difference of opinion between the anatomists and clinicians regarding empyema of dental origin. The former asserting, as no microscopic evidence of any inflammation or change of structure is found on section of the antrum between the roots of the teeth and the cavity, that the teeth decayed or diseased play little, if any, active part in its production.

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[1] Archiv f. Laryng. u. Rhinol., 1889, Heft 3.

They do admit occasionally to have found sufficient dental cause. Zuckerkandl in 300 cases only could trace one as being due to dental causes. The same with E. Fränkel, while Dmochowsky never found any evidence. Hajek in this connection remarks:

> This marked difference of opinion of anatomic and clinical evidence is due to the fact that in the course of time all evidence which would point to a disease of the alveolar process or teeth is, or has been, entirely lost, as it is quite possible for the germs to have penetrated through the alveoli of the teeth and the intervening bony plate, as is the case in an affection of the meninges in frontal sinus and sphenoidal empyema without leaving or producing any macroscopic changes in the bone.

Kyle states: "Too much importance can not be attached to the teeth as a causal factor in antral lesions." A majority of cases he believes are due to diseases of the teeth and gives the percentage as high as 70, also states that it may be a postoperative complication of nasal and dental surgery. One case observed by him was due to the use of arsenic applied for the destruction of a pulp in a decayed tooth. The application was made twice in three days and not seen for several days afterward, when the antrum was involved, and extensive tissue necrosis had occurred with infection (evidently due to a very careless application of the arsenic). In another case extensive necrosis and suppuration had followed the injection of chlorid of zinc into a tooth cavity which connected with the antrum.

The relationship between diseased conditions of teeth and the upper jaw, gums, alveolar process and antral troubles as well as some lesions of the nose, is an intimate one, and should be taken into consideration more frequently than it is. As Kyle has well said:

> A thin alveolar process of upper jaw from lesions of the teeth may cause by extension of inflammation, by continuity of structure, lesions of the floor of the nose or of the antrum; on the other hand, deflections of the septum or spurs situated close to the floor of the nose, by the inflammatory action set up in the surrounding structure, may bring about inflammation and diseased conditions of the teeth in the direct line of obstruction. The stomatologist should, therefore, not only have a thorough knowledge of the nasal cavities and accessory sinuses, but also of general medicine; and, indeed, the general practitioner or specialist should have a more thorough knowledge of stomatology.

## DISCUSSION.

Dr. Thomas L. Gilmer, Chicago—Dr. Heise has done well in differentiating between a pus sac at the end of a root of a tooth and the so-called empyema of the maxillary sinus. I do not know whether I can agree with him in the nomenclature. We are often defective in diagnosis of the various diseases to which the antrum is subject. For instance, take the condition spoken of in the paper, denominated cystic empyema, and the condition called true empyema. It may be very difficult to diagnose between these two conditions, although there is a vast difference. This is especially true if the ostium maxillary be closed, then practically both are encysted. In neither case will pus be found in the nose. In the encysted condition pus will not escape into the nose because it is enveloped in a cyst wall; in the other it does not escape, because the normal outlet from the sinus is closed. Sometimes a tooth is found with a septic root closely approximating the floor of the antrum, and as a result a pus sac may form on the end of the root, and by enlargement cause pressure sufficient to absorb the thin layer of bone overlying, and the sac continuing to grow, may in some instances completely fill the sinus. The patient may have all of the symptoms of empyema, transillumination gives a shadow, there is thinning of the nasal and buccal walls and protrusion of the eye from pressure below, but there is no appearance of pus in the nose. If the fact can be established that there is no stenosis of the ostium, then the indications are that it is either a cyst or a new growth. My clinical experience leads me to the conclusion that the two principal causes of empyema of the maxillary sinus are extension through continuity of tissue of an inflammation from the nose, and from septic roots of teeth, the former being by far the more common cause. Since the prevalence of influenza in this country, disease of the maxillary sinus has become much more common, indicating that the nose is a fruitful source of the disease. While it is true that septic roots of teeth are occasionally a primary cause of empyema of the maxillary sinus, still I am of the opinion that they are more frequently a secondary rather than a primary cause. For instance, as a result of a catarrhal condition of the lining membrane of the antrum there may be an inflammation of sufficient consequence to cause the death of the pulp in the root of a tooth. In some instances on the floor of the antrum immediately over the buccal roots of the first and second molars, and over the end of the root of the second bicuspid there are slight elevations of very thin bone, corresponding to the roots of these tusks. The mucous membrane over this thin area of bone becomes inflamed, the inflammation extends from the lining of the sinus to the pulp of the tooth, causing its death. After the subsidence of the catarrhal condition there is left at the end of the root a source of infection which will probably continue the disease of the antrum as an empyema. Under such circumstances the root was a secondary rather than a primary cause. My experience teaches me that it is useless to attempt to cure a case of empyema, caused by a pulpless tooth, if the apex of the root projects into the floor of the sinus, until the tooth is removed. If only drainage is needed for a cure then I would open through from the middle meatus of the nose. If the sinus contained granulation tissue, polypi or any condition demanding curettement, I should open from the buccal wall of the cavity, making the opening sufficiently large to admit the little finger. Digital examination affords a much more satisfactory means of exploring the cavity than does an instrument. I prefer to make such an opening rather than through a tooth socket, 1, because it is impossible to reach every part of the sinus for curettement through a tooth socket; 2, because, if the opening is made through the buccal wall the cheek falls over the opening and in a large measure prevents food from getting into the cavity. An opening here also permits the introduction into the cavity of a small electric lamp for examination during treatment. I am of the opinion that arsenic should almost never be used for the destruction of pulps of teeth. The application of cocain makes the immediate removal of pulps painless and practicable, therefore its use is preferable. In some instances there are accessory or additional openings in the sides of the roots of teeth larger than the apical foramen, through which arsenic may pass and do much harm. I can not conceive why chlorid of zinc or carbolic acid should be used in such cases.

Dr. M. H. Fletcher, Cincinnati—In 1893 Dr. Talbot and I went through the Army Medical Museum to study the anatomy of the antrum. The tubercle of bone over the roots of the teeth, as pictured on the board by Dr. Gilmer and as shown and described by Gray, Quain, Zuckerkandl and other anatomists, was found[1] in only 12 antra out of 1,000. On the other hand, in a large per cent. of cases there was no bony covering over the apices of the teeth, the apex of the tooth coming directly against the soft tissues of the floor of the antrum. We all know that on the buccal surfaces many of the apices of roots are bare of bone, being simply covered by mucous membrane and, as I have stated, many apices are also bare in the antrum. An abscessed tooth with the conditions of anatomy described would undoubtedly discharge in the antrum, the pus going in the direction of least resistance. I have seen several cases of such perforation with a dental abscess discharging into the antrum. In these instances healing took place, under treatment, as readily as if the opening had been through the alveolar process. It is my experience that pulpless teeth producing antral trouble yield to treatment as readily as though they discharged into the mouth. On the other hand, recent experience has caused me to believe that disease of the alveolar process from calcareous deposits is more largely to blame for antral trouble than are pulp lesions. It never has been my experience in examination either of skulls or of patients to see a bicuspid that came very near the floor of the antrum. I have seen these openings referred to by Dr. Gilmer. I fail to recognize any condition about the pulp of a vital tooth which would cause antral disturbance. Arsenic is a favorite remedy of mine. I have used it almost ever since I have been practicing, and it is my habit, if I feel that I have failed in perfectly opening a root canal, to insert some arsenic as far into the canal as possible and leave it there, expecting it to continue to produce asepsis and prevent future trouble. I have done this a great many times and have yet to see antral trouble produced. I do not, however, use arsenic to any degree in destroying pulps.

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[1] "Some Suggestions as to the Relation of the Teeth to Empyema of the Maxillary Sinus," M. H. Fletcher, The Journal A. M. A., Dec. 30, 1893.

**Dr. H. E. Belden**, New Orleans—In view of the fact that you use arsenic at all, what is your objection to using it in destroying pulps?

**Dr. Fletcher**—If enough is used to destroy the pulp in a reasonable time it is sufficient to cause trouble afterward. As to the use of zinc and other medicaments which destroy bone, I have seen carbolic acid destroy a large area of the alveolar process, but I never have seen arsenic do that. Arsenic, however, if applied to live tissues will destroy a small zone. In my experience it never has produced necrosis, as that term is accepted in pathology. It may produce destruction of tissue, but the condition may be compared to traumatic injury. The tissues do not continue to die progressively as in ordinary necrosis. It has also been my experience that the tissues will remain sore for months if the application is short of destruction of tissue. There is, however, in these cases no septic condition, no necrosis, no pus. The arsenic stops this process.

**Dr. Gilmer**—Have you not seen the destruction of bone between the teeth from the use of arsenic?

**Dr. Fletcher**—I never have.

**Mr. Constant**—I have on three occasions.

**Dr. Gilmer**—I have seen it many times.

**Dr. Fletcher**—The essayist has distinguished between a cystic condition and that of empyema. I have to stretch my imagination considerably to think of a tooth producing the cysts as he has described.

**Mr. T. E. Constant**, Scarborough, England—In my experience it has been very exceptional to find a case in which disease of the antrum could be definitely traced to the tooth. In regard to determining cause and effect, I am sure that to consider many cases of so-called empyema as due to abscess connected with the tooth is putting the cart before the horse. I can recall two cases in which empyema of the antrum was supposed to be due to trouble in the first molar. When the first molar was removed it was found possible to evacuate the pus and that was taken as proof that the tooth caused the trouble. I could not convince myself that the tooth was the cause of the trouble. I think the fact that the apices actually went into the antrum made it easy to get the discharge in that way. I agree with Dr. Fletcher that it is far more common to find the apices of teeth bare within the antrum than to find them covered. A great number which I have examined in England show that.

**Dr. M. L. Rhein**, New York City—I feel convinced from a careful study of this subject that the cases in which the teeth are the primary etiologic factors are very rare. The tooth generally becomes involved through pathologic conditions arising between the end of the root and the antrum. I think it is wise to emphasize this point.

**Dr. Fletcher**—Dr. Talbot and I found that the molar teeth produced this trouble in about 5 per cent. of cases.

**Dr. A. E. Baldwin**, Chicago—I firmly believe that arsenic can seldom if ever affect the tissues beyond the pulp of the tooth. Dr. Gilmer has referred to the septum being lost by the careless application of the arsenic by the particles getting down between the teeth.

**Dr. Gilmer**—I spoke of the particles on the sides of the root which I have found and have been able to pick off.

**Dr. Baldwin**—Years ago I suspected that arsenic or arsenious acid might act beyond the pulp and I made several examinations in this way: In a central incision I would make application to the pulp of the tooth, and after a sufficient time remove the pulp. I then took several sections of the pulp, but could find no evidence of the arsenic in the several parts beyond the point of contact. I do not think, therefore, that the pulp could convey the arsenic to the adjacent tissues. I think a great deal of the injury is done by the careless application of the arsenic and the ease with which it gets outside of the tooth, causing the destruction of bone and soft structures.

**Dr. G. L. Curtis**, New York City—I think there are very few diseases of the antrum of a primary nature, and that a large proportion of the diseases of the antrum are caused by affections of the teeth. Tuberculous conditions are sometimes responsible for the absence of success in treating these cases. The cystic condition usually found in the antrum is, I believe, largely due to alveolar abscess, or to septic conditions of the pulp or of the canal of the tooth. I have seen some cystic tumors where there was extended absorption of the bone, and where the periosteum of the antrum was so crowded toward the opening at the nares that there was practically no antrum left. The reproduction of the bone in such cases is a most difficult task.

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# THE *X*-RAY AS A THERAPEUTIC AGENT:

## WITH ESPECIAL REFERENCE TO CARCINOMA.*

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In attempting to arrive at a correct estimate of the *x*-ray as a therapeutic agent we are confronted at the outset with a number of difficulties: (1) By the fact that this force has been known but a short time and that little is known of its exact nature, so limited is our knowledge that we can not even measure with any degree of accuracy the amount which we are employing in a given case. (2) The agent has been employed but a very short time as a therapeutic agent, and sufficient time has not elapsed to enable us to determine the permanency of the results obtained. (3) Although an enormous amount of work has been devoted to the subject and an enormous number and variety of cases have been treated during the last three years, still for the most part this has been done in a haphazard way by all sorts and conditions of medical men, on all sorts and conditions of patients, and little reliance can be placed on many of the reports made.

I think that it would be safe to say that up to the present most of the *x*-ray work has been done by two classes of men—enthusiasts whose statements and reports were made unreliable by their enthusiasm, and, second, by physicians who simply saw in an *x*-ray apparatus a means of increasing their professional incomes, and did not hesitate to cry loudly the value of their wares.

We do not lack evidence on the subject of the therapeutic value of the *x*-ray. We have before us an enormous mass of evidence. The difficulty is to separate the truth from the error. We have before us, however, a certain amount of scientific well-observed work, done by well-qualified men, whose reports and opinions command general acceptance, from which we can determine approximately at least the present status of the $x$-ray as a therapeutic agent—its value, and its dangers and limitations.

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* Read before the New York State Medical Society, 1903.

Very shortly after the discovery of the $x$-ray I became interested in the subject as a means of diagnosis, and very early became familiar with the peculiar power which it possesses of destroying living tissues, especially epithelium, as shown by some extensive $x$-ray burns. As early as 1898 I employed it in a case of lupus, which has recurred after extirpation and skin grafting, but without benefit. We obtained a marked $x$-ray reaction in this case after a few exposures, but we could not see any evidence of improvement, and we discontinued treatment.

When my attention was again called to the subject by favorable reports in cases of lupus and epithelioma I was exceedingly skeptical—I might say brutally skeptical. I had shortly, however, an opportunity of seeing cases of lupus and epithelioma and recurring carcinoma of the breast, which had disappeared under $x$-ray exposures, and I began experimenting with similar cases in my own service. I was greatly impressed by the cases of recurring breast carcinoma, where nodules of considerable size, and demonstrated by the microscope to be carcinoma, disappeared under the treatment.

Everyone who has watched such cases must have been convinced that in the $x$-ray we possess an agent of great power and great possibilities in the treatment of malignant disease.

In 1902, at the Saratoga meeting of the American Surgical Association, I made a report of my early work, and again, at the last meeting of the American Surgical Association at Washington, I presented a paper in which, from the evidence at hand, I attempted to estimate the value and limitations of the $x$-ray as a therapeutic agent in carcinoma. I shall quote rather freely from this report. I desire to say that in the last year and a half nothing strikingly new has been added to our knowledge in this department. The experience and evidences obtained during this period have been rather of a kind which demonstrated to us the marked limitations of the agent, and demonstrated the dangers associated with its employment.

I shall confine my statements to classes of cases which I have had the opportunity of personally observing. I shall not mention the many skin lesions in which the $x$-ray has been employed, with reported favorable results, as I have little personal knowledge of this side of the subject with the exception of blastomycetic dermatitis, and I shall refer to this because it has some bearing on a point which I shall later bring out.

Several years ago when I first suggested the internal use of iodid of potassium in blastomycosis in a case reported by Hyde, Hektoen and myself, it was found in this and later cases that the iodid profoundly influenced the disease. It was noted, however, that some resisted the treatment, and that although a decided improvement was obtained, the lesion often did not clear up entirely, and recurred after cessation of the treatment. It has since then been found by Hyde, Montgomery, Pusey and others, that the combined action of the iodid internally and the $x$-ray is successful in curing these obstinate cases where neither alone would suffice. I regard this as a very instructive and suggestive point, which, as I have stated, I shall refer to later.

In lupus the evidence is somewhat conflicting. The $x$-ray does cure lupus, but the experience of the majority of workers in this field seems to speak in favor of the Finsen treatment as the treatment of choice. In our hospital we are now using a modified Finsen lamp instead of the $x$-ray in our lupus cases.

In Hodgkin's disease uniformly favorable results have been obtained as far as decrease or disappearance of the enlarged glands is concerned. In some cases this has been accompanied by profound toxemia, resulting apparently from poison introduced into the circulation from the rapidly breaking down glands. Sometimes this has been fatal. In some of the cases with the disappearance of the glands there was no general improvement, the patients growing weaker and the cases terminating fatally after a considerable period. In others the glands, after disappearing, have later recurred. In some cases, however, the glands have disappeared, the patient's condition has improved to a point where they were apparently cured, and this has occurred in a sufficient number of cases to warrant the careful use of the $x$-ray as an important, if not the most important, factor in the treatment of this disease.

In leukemia, in both the spleno-medullary and lymphatic types, marked diminution of the spleen and involved glands has been observed after the use of the $x$-ray, with improvement in the blood condition. The evidence here, however, is as yet not sufficient to warrant the drawing of any conclusion.

In tuberculosis, outside of lupus, as tuberculosis of lymphatic glands, bones and joints, peritoneum and intestines, the reports are very conflicting. In a personal communication one of the men who has had a wide experience in $x$-ray therapy and who has followed his work most thoroughly and scientifically, informs me that he believes he is curing 90 per cent. of tuberculous lymph glands. Our own limited personal observation, on the other hand, has given us small encouragement.

We have not employed the agent in tuberculosis of bones or joints. In tuberculosis within the abdomen, of peritoneum and intestines, we have had the opportunity of noting some interesting results. One case of hyperplastic tuberculosis of the descending colon, with circumscribed abscess from perforation, was operated on and the abscess drained. A fecal fistula remained. This was closed by a second operation, and the patient placed under the $x$-ray every other day for a period of five or six months. During this period moderate doses—75 grains a day—of potassium iodid were employed. Under treatment the patient has gained 40 pounds in weight, has regained his strength, and returned to his work (manual labor), and the fist-sized mass in and about the colon has almost entirely disappeared. We can not, of course, establish a definite relationship between the $x$-ray treatment and the improvement. I simply report the facts for what they are worth.

Several cases in the service of Dr. Frank Billings' of peritoneal tuberculosis with tuberculous masses and with large amounts of fluid in the peritoneal cavity, which I had the opportunity of observing, have, while under rest and the $x$-ray, improved greatly, the masses and fluid both disappearing.

In regard to this whole subject of tuberculosis, outside of lupus, I should say that we must regard the question as still open, and as a promising field for future experimentation. Sarcomas have been made to melt down and disappear under the $x$-ray. The evidence on this point I think can not be doubted. However, as a treatment for sarcoma the $x$-ray has been most unsatisfactory in our hands. Sarcomas from the position from which they spring, i. e., mesoblastic layer, are essentially deep-seated. If we could spread out the cells of a sarcoma as a thin layer on the surface of the skin I have no doubt that the *x*-ray would destroy them as it destroys the epithelial cells in epithelioma, or if we should leave a great open wound after the removal of a sarcoma so that we could directly, without much intervening tissue, apply the *x*-ray to the cells which might remain after operation we might obtain favorable results. As an example of this point, I want to refer to a glioma of the orbit which recurred after operation in which the *x*-ray could be brought in immediate contact without intervening tissue and where disappearance of the growth and an apparent cure was obtained.

I think the same conclusions can for the most part be applied to sarcoma as apply to deep-seated carcinoma, which we shall later discuss.

*In regard to the effect of the x-ray on carcinoma,* we may speak with more confidence and say that the facts which are to-day fairly well established are the following:

1. The *x*-ray will destroy the epithelial cells of carcinoma superficially situated as in epithelioma. The *x*-ray seems to possess a selective action on the epithelial cells of carcinoma, due probably to their possessing lower resisting powers against the agent than that possessed by normal epithelial cells. When superficially situated so that the furthest cells are within a centimeter of the surface, a mass of carcinoma melts down under the *x*-ray, the individual cells dying become granular and are absorbed without gross evidence of necrosis or of tissue change, beyond that of reddening of the surface and the so-called *x*-ray reaction. Sometimes, however, where a large mass of carcinoma is attacked, it may soften and break down, and be separated from the normal tissues something like the breaking down of a gumma.

When the carcinoma is very thin and very superficial, as an epithelioma of the face, of the rodent ulcer type, not yet involving the tissues underlying the skin, the disappearance of the lesion and the restoration of the surface to almost normal, with slight evidence of scar tissue, can confidently be looked for after about 20 exposures of 10 minutes daily or every other day, with a soft tube from 30 to 110 volts and 2 to 4 amperes.

When the epithelioma is a thick mass of new tissue, as an epithelioma of the lower lip as thick as the finger, the *x*-ray will produce extensive change with destruction of many of the carcinoma cells, and sometimes of all of them with resulting cure. More frequently, however, even under the treatment the process will extend and the lymphatics become involved.

In recurring carcinoma of the breast with recurrence in and about the scar, with nodules in the skin and immediately beneath this, the *x*-ray will produce an absorption of the masses even of considerable size—the size of an English walnut. If these masses are the only locations of carcinoma in the body, a cure might be hoped for with their disappearance, but, unfortunately, with these masses are usually masses in the mediastinal and other lymph glands, and, in spite of the disappearance of the skin masses, the patient goes on to death from general carcinomatous invasion, apparently, however, being benefited to some extent both locally and generally by the treatment.

In cases of deep-seated carcinoma such as stomach, larynx, superior maxilla, mouth, etc., I have seen no evidence of benefit beyond the statement of the patients that they felt better, had less pain, etc., some improvement in general condition. In every case the lesion extended, and in none was a cure obtained.

In estimating the value of the *x*-ray in the treatment of carcinoma there are three facts which must be especially considered and which seem to control largely the *results:*

1. The situation of the lesion, whether superficial or deeply situated.
2. The rapidity of the growth of the cells and the resisting power of the carcinoma cells in the particular case.
3. The size of the new growth.

In regard to the first, the destructive action of the *x*-ray on cancer cells is in direct proportion to their superficial position, i. e., the more superficial, the greater the destructive effect; the deeper, the less the destructive effect. The depth at which the destructive effect (of the *x*-ray on cancer cells) can, with our present technic, be with any confidence expected does not seem to greatly exceed a centimeter. In regard to the vitality of the cancer cells in the particular case, I think it is quite clear that the cancer cells differ markedly in different cases in regard to their resisting power to the *x*-ray. The rapidity of the growth seems to be a fair index of their resisting power to the *x*-ray., the very slowly-growing cancer having less, and the rapidly-growing greater, resisting power. Depending on the differing resisting power and the superficial or deep situation, some lesions disappear under the *x*-ray treatment, some remain stationary and some continue to grow even while under treatment, apparently unaffected by it. The size of the lesion is of importance and the value of the *x*-ray varies in inverse proportion to the size of the growth, the smaller the growth, the more evident the effect, the larger, the less effect. A small superficial epithelioma is readily destroyed; a thick, large epitheliomatous mass, with difficulty or not at all, by any amount of the agent which it is permissible to employ, and even though many of the cells in such a growth may be destroyed, enough remain to bring about regional infection, which may become evident even during treatment.

The question which has been asked, i. e., whether under some circumstances the *x*-ray stimulates the growth and dissemination of the cancer cells, is one which it is at this time difficult to answer. Personally, I have seen no evidence of this. I have seen, to be sure, cases of cancer grow with great rapidity and widespread dissemination occur while the cases were under treatment, but we see the same thing happen frequently in cases which are not under any form of treatment, and I have interpreted the cases, when rapid growth occurred while under the *x*-ray treatment, simply as being cases which were not influenced in any way by the agent and believed that the same rapid growth and dissemination would have occurred with or without the *x*-ray treatment.

What should be our position in regard to the use of the *x*-ray as a therapeutic agent in carcinoma?

It is, I believe, the treatment of choice in slowly-growing superficial epitheliomas, the rodent ulcer type, especially those of wide extent without regional involvement, and especially lesions of this kind situated about the face and eyelids where a radical removal of the lesion with the knife would result in marked disfigurement and deformity from the resulting scar, even when skin grafting is employed. In all other forms of carcinoma, where [illegible] h or more deeply situated than the skin, or even when limited to the skin is of considerable thickness, the case should be treated by extirpation and followed by a course of *x*-ray treatments, probably, as a rule, about 20 exposures immediately after the healing of the operative wound.

I think that this position—this combination of the knife and the *x*-ray—is logical on the following grounds:

1. With the exception of the carcinomas of the rodent ulcer type above described, little can be expected from the *x*-ray in the treatment of primary carcinoma, therefore no time should be lost with its use, and, where conditions warrant, the carcinoma should be widely extirpated in accordance with approved surgical methods.

2. As has been repeatedly shown (especially in cases of breast amputation for carcinoma where recurrence has taken place in and about the scar), these secondary masses can be made to disappear with the use of the x-ray. There can be but little doubt that these secondary nodules, masses of epithelial cells the size of a bean or a walnut, were at the time of the operation very small collections of cancer cells which gradually grew from microscopic to macroscopic proportions, and it is reasonable to suppose that if the *x*-ray can destroy these bean-sized and walnut-sized cancer masses it could much easier have destroyed the microscopic masses of cancer cells from which they developed. I believe, therefore, that we should give this post-operative *x*-ray treatment a thorough and extended trial in our carcinoma cases, and believe that we shall considerably increase our number of permanent cures after cancer operations by this means.

The most interesting question, to my mind, in connection with the action of the *x*-ray on cancer cells is this: Would it not be possible in some way to so extend the action of this agent which has the power of destroying cancer cells under certain conditions—that is, at certain depths and cells of certain resisting powers—to a point where it can destroy them under all conditions? The fact that under certain circumstances, as Hodgkin's disease and lymphatic leukemia, the *x*-ray does produce effects on masses of cells of low resisting power at great depths, might encourage us to hope that under certain favorable conditions it might affect cancer at great depth.

Of course, if this could be accomplished our cure for carcinoma would be found. As it is to-day, the *x*-ray as a cure for carcinoma has, as we have seen, a very limited field. In answer to the last question, I have thought that the desired result might be accomplished in one of two ways, or possibly both. First, that physicists might so improve our *x*-ray apparatus that we could obtain the destructive effect on the cancer cells at all depths, and yet without too great danger to the intervening tissues, and, second, that it might be possible to so diminish the resisting power of the cancer cells by some means, as, for instance, the ligation of the arteries supplying the region, thus shutting off the blood supply, or by means of some chemical agent introduced either into the general circulation or locally injected, that even with the *x*-ray as at present developed we might obtain destructive effects at greater depths. In connection with this last proposition my mind naturally turned to iodin and arsenic as the agents which have shown evidence of power to affect deep-seated masses of new cells of low vitality, as iodin in syphilis, actinomycosis and blastomycosis, and arsenic in malignant lymphoma (Hodgkin's disease).

In working out this idea we have made some experiments to determine the effect of the *x*-ray on solutions of iodid of potash to determine whether it would produce any chemical change and set the iodin free.

The first experiment was simple, and interesting in its results. We took a solution of starch and iodid of potassium and submitted it to a 10-minute exposure of the *x*-ray, such as we used for therapeutic purposes. We had control solution under the same conditions minus the *x*-ray. It was found that the *x*-ray liberated about twice as much iodin as was liberated from the control solutions.

After all, however, the clinical test of such a therapeutic scheme is the important test, and we have employed this method of treatment, which, I think, should be called radiochemic therapy, in a number of cases. In a case of inoperable mouth carcinoma I ligated both external carotids, and placed the patient on iodid of potassium internally, and the *x*-ray. The tumor was diminished greatly in size, and almost disappeared. The patient died four months later of pyemia, and the postmortem showed a mere remnant of the original growth, and no regional or general involvement. Two of the most striking cases of benefit from this method of treatment have, however, not been in carcinoma, but in other conditions—one a case of actinomycosis of the neck, which cleared up surprisingly rapidly under the *x*-ray and iodid of potassium, and the other a tumor of the colon, already referred to, almost certainly tuberculous, which has almost disappeared under the same treatment. In our carcinoma and sarcoma cases we have combined with our *x*-ray either iodid of potassium or arsenic, and, although I have been encouraged by the results, the cases are too few and the difficulties in the way of determining the value of this combined treatment are so great that it is impossible at present to draw conclusions. I have, however, no hesitation in presenting this suggestion of composite therapy, with the hope that others may be sufficiently interested to investigate its possibilities.

It does seem plausible, however, that, given an agent which will destroy carcinoma cells and not the cells of the surrounding tissues under certain favorable conditions for its action, i. e., superficial situation and low resisting power of cancer cells, it is quite possible we may find some way of enhancing its action so as to reach cancer cells at all depths and of all degrees of resisting power and secure in this way a carcinoma cure.

In conclusion, the *x*-ray at present is indicated as a therapeutic agent:

1. In the superficial epitheliomas above described.
2. As a post-operative treatment in most of our carcinoma cases.
3. In our inoperable cases, as a justifiable piece of experimental work in the hope that this line of investigation may possibly lead to valuable results.

The dangers of the *x*-ray as a therapeutic agent are two, and these dangers should be especially pointed out to the general profession. The first danger is the possibility in all cases of producing a serious *x*-ray burn. This possibility can be reduced to a minimum by a thorough understanding of the technic, but can not be entirely done away with, as burns will occur even in the hands of experts of the greatest experience. The second danger, and the more important one, is the using of the *x*-ray in cases where it should not be used, where its use is of no benefit to the patient, where its use means valuable time scarcely have happened had a thrombophlebitis been present.

I am of the opinion that either the free germs themselves or the germ-bearing leucocytes burrowed their way through the thin membranous walls of the sinus and gave birth to the metastatic process in the liver and the clavicular joint. An interesting feature of this case not to be left unnoticed was the spontaneous cure of the hepatic abscess by rupture into the bowel.

## SYPHILIS IN THE NEGRO.*

FRANK JONES, M.D.
MEMPHIS, TENN.

With the advent of his emancipation and his citizenship the negro earned his syphilis and bequeathed it (both by acquisition and heredity) to his posterity, to such a degree that he, in a great measure, became syphilized prior to his becoming civilized. Syphilis obtains in all of its forms in its most classic type in the negro by reason of his habits, his environments, his utter indifference to the disease and his carelessness and delay in having it treated. My experience, covering a period of more than six years in a large clinic composed almost entirely of negroes, justifies me in making the statement that 75 per cent. of that class of negroes who come as patients are syphilitic (either acquired or hereditary). I could present you with a museum of Jonathan Hutchinson's teeth, bridge-shaped noses, rickets, and Parott's disease, showing the result of herditary syphilis in negro children.

### PRECOCITY.

The precocity of syphilis in the negro is striking. I have the opportunity in hospital work to see it in both ces. In the negro it is not uncommon to encounter the cre, the mucous patches, the secondary skin eruptions, the iritis, the general periostitis—especially in the sternum, the tibiæ and the costal cartilage—and the high grade of syphilitic fever existing simultaneously: fulminating syphilis or acute syphilis, if you please, overwhelming in nature, producing profound systemic infection from which all the tissues of the body suffer, especially the arteries, the heart, the kidney and the brain. It has been said by some—and I am afraid they are not acquainted with the facts—that syphilis in the negro will run its course uninfluenced by medication without deleterious results. I am not prepared to confirm this statement; syphilis leaves its marks that can be readily detected by the close observer.

### THE RELATION OF SYPHILIS AND PHTHISIS..

The prevalence of phthisis and its high mortality and its rapid course in the negro has been commented on by nearly all southern clinicians and teachers. In making a review of the subject I have not seen sufficient reasons given for its appalling mortality. I encounter it daily, but have never seen a negro with phthisis recover, it matters not what comforts he may have, what his sanitary surroundings may be, or what precautions he may take after the diagnosis has been made. Acute pneumonic phthisis is the most frequent type observed. I have often seen it run through all the stages and terminate fatally in six weeks, when the first examinatio had shown it to exist only in its incipiency.

The question might well be asked, why this high mortality and this rapid course of phthisis in the negro? Basing my reasons on my clinical observation, I think a rational conclusion can be reached as to a reason for this mortality and for this rapid course. In the majority of patients coming into the clinic with phthisis well developed, a clear history of syphilis, either recent or remote, can be found. The damage that syphilis has already wrought in the system by its effects on the blood vessels, the heart, the kidneys and the general nutrition brings about a lowered vitality, a want of resistance on the part of the patient to the invading enemy. The field is rich and ready for the entrance, cultivation and growth of the tubercle bacilli. This pre-existing or coexisting syphilis gives the right of way to this captain of the men of death, tuberculosis. Whenever a patient, whether white or black, contracts tuberculosis, having had a recent active syphilis, I always look for a rapid and fatal termination. Tuberculosis writes its seal thus on this class of patients: "All hope abandoned when I enter here." I have often seen acute syphilis and acute tuberculosis coexisting in the negro. They are the mighty monarchs which are yearly sweeping thousands of ignorant negroes from the face of the earth. Unquestionably mixed infection plays a great rôle in the production and mortality of phthisis.

### SYPHILIS OF THE PLEURA.

I often encounter insidious accumulations in the thoracic cavity where there has been no history of a previous pneumonia, pleurisy or nephritis, where, to the casual observer, the physical signs are negative and there is no symptoms that would lead one to suspect any trouble in the chest. These insidious accumulations, whether exudates or transudates, inflammatory or non-inflammatory, are marked characteristics of a recent syphilis. I wish to report the following illustrative case:

Case 1.—May 20, a male negro, aged 25, came to the clinic. He suffers with extreme pain in the abdomen, has a constant desire to go to stool, has much straining with passage of small quantities of mucus and pus; the abdomen is rigid and retracted. I found a pronounced rectitis as far up the bowel as could be seen by the speculum. To the touch the ulcers were hard and indurated. There was marked periostitis in sternum, tibiæ, radii and costal cartilages. His temperature was 102, pulse 110. He had no cough, no dyspnea, but absolute fixation of the right side. There was absence of vocal fremitus on palpation, absolute flatness anteriorly, posteriorly and laterally on percussion. Auscultation revealed absence of all respiratory sounds. Aspiration withdrew the typical straw-colored serofibrinous fluid. He gave no history, in spite of close inquiry, of a previous pneumonia or pleurisy. Two years ago, while working on a levee on the Mississippi River he contracted syphilis and took treatment of no consequence except patent medicines. His health constantly failed. Chills and fever, accompanied by this proctitis, developed. He continued with great effort at his work, but was forced to abandon it, and came to Memphis in January last. There was no ascites, enlargement of the liver, edema or albumin in the urine. Dr. Malone of the surgical staff withdrew nearly a gallon of serofibrinous fluid by aspiration.

A striking feature of these accumulations is their enormous quantity. In May, 1900, I withdrew from a male negro, who had about the same history as the one above mentioned, two gallons and a pint at one sitting, with the best results. This case serves merely to point

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*Annual Address before Chicago Medical Society, 1903.

## SYPHILIS OF THE HEART.

What a broad field! I regret exceedingly that my limited time prevents my going into this question more than to touch on some of the salient points. The negro race, as a clinic from which to draw, could supply material out of which an ideal text-book on diseases of the heart could be written. In passing let me congratulate you, as well as the west and the medical world, on having in your city an author who in my opinion has written the most exhaustive, most comprehensive, and the most ideal text-book in any language on diseases of the heart. I refer to Dr. Robert H. Babcock.

Aortic lesions occur as frequently as mitral lesions, or even more so from the fact that syphilis so often plays a leading rôle in the production of a sclerosis from which valvular lesions at the aortic opening arise. Our text books dwell at length on inflammatory rheumatism in the production of an endocarditis from which leakage or stenosis at the mitral valve occur. In a careful perusal of such standard works as Broadbent, Sampson, Cheadle, Sibson, Gibson and Babcock, I failed to find any mention of syphilis as an etiologic factor in the causation of endocarditis. In studying heart lesions, both mitral and aortic, in the clinic, I find a clear history of syphilis more often than of inflammatory rheumatism. I believe acute syphilis produces pronounced acute endocarditis from which lesions, both valvular and muscular, may arise in all their classic stages and in their most severe forms. In this precocious type of syphilis the whole structure of the heart is very often attacked, the syphilis seeming to spend its force on this organ, nearly all the leading symptoms and physical signs of aortitis, myocarditis, endocarditis and pericarditis existing as a grand whole of cardiac symptomatology, the postmortem findings verifying the composite clinical picture. I believe that we have in these cases a true and well defined "carditis." This is a term that might be used with more significance in our text-books; but examine the standard works on the heart and you will find that the term is seldom used or mentioned. Dr. Krauss, one of the most eminent pathologists in the south, states that in his postmortems on cases in which death has occurred suddenly in these cardiac cases, where there was a history of fulminating syphilis, he often found arteritis, endarteritis, atheroma, arteriosclerosis, endocarditis, pericarditis and myocarditis existing, denoting different degrees of inflammatory and degenerative changes. Permit me to report two cases as types which are constantly coming under my observation:

CASE 2.—June 3, a male negro, aged 28, was seen at clinic. He had a temperature of 103, pulse 130; history of chancre about three months ago, throat ulcerated, squamous syphilids on all parts of body, marked periostitis in sternum, tibiæ, radii and costal cartilages. He stated in his own terms that his bones and his head pained him to such a degree that he had to walk the floor at night. The liver was tender and enlarged. He complained of having had several attacks of asthma at night the week before he came to the clinic. There was some edema of the lower extremities; dyspnea and cough were marked. He complained constantly of retrosternal pain radiating to the back, a symptom indicative of angina. On inspection the apex beat was seen to be diffused and tumultuous and displaced downward to the sixth interspace and fully three inches to the left. There was some throbbing of the carotids and jugulars. The pulse was full and bounding, and to a certain degree incompressible in the radial artery at the wrist. On auscultation there was a loud blowing systolic murmur at the apex easily heard in the axillary line and heard more distinctly behind at the inferior angle of the scapula than at the apex—in other words, all the physical signs of mitral insufficiency. At the base there was a harsh blowing systolic murmur. From the history, the physical signs and the symptoms I made a diagnosis of a general aortitis and mitral insufficiency. The question arises, was there not an aortitis primarily extending down into the endocardium, from this endocarditis and sclerosis, the mitral leakage following as a consequence. In spite of the closest inquiry he denied ever having had inflammatory rheumatism. The prognosis in this case is grave, possibly my assistant will sign his death certificate before I return to Memphis.

CASE 3.—May 28, I saw a negro woman, aged 26, occupation cook. She married three years ago, and has had three miscarriages, at three, four and seven months respectively. About a year ago she left her husband because he gave her, to use her own words, "the bad disease." Judging from the history she gave me, the attack of syphilis she had was acute and violent. She gave no history whatever of ever having had inflammatory rheumatism. She had a temperature of 105, pulse 140. A few days previous to my seeing her she stated that while washing some clothes she was attacked by a most violent chill. I found the liver enormously enlarged and very tender on palpation. Periostitis in sternum and tibiæ was so pronounced that she would cry out with pain whenever I attempted to palpate or percuss in these regions. The conjunctivæ were slightly jaundiced, tongue large, heavily coated and flabby, rigors and profuse sweats were pronounced. She was semidelirious. There was no edema in the lower extremities, no albumin in the urine, but all kinds of casts in abundance. She stated that she had been treated by a quack a few months ago for dysentery, but on examining the rectum I found a proctitis so pronounced that you might say that stricture of the rectum was in the creative stage. The heart action was tumultuous, the apex beat so bounding that you could see it several feet from the bed. On auscultation there was a blowing murmur at the apex, systolic in time, heard in the axilla, indicative of mitral insufficiency, also a spinning top diastolic murmur at the base, transmitted up and down the sternum. I gave as a diagnosis, malignant endocarditis engrafted on a syphilitic aortitis and myocarditis. While attempting to take her medicine she died, on the morning of June 12. The family would not consent to autopsy.

## SYPHILIS OF THE RECTUM.

In conclusion I wish to call your attention to syphilis in the rectum. I have recorded 48 cases of stricture of the rectum, of which 47 were found in negro women, and the other in an old negro man. This last was malignant. One was tuberculous in a negro woman with acute pneumonic phthisis; 46 were undoubtedly syphilitic; the youngest patient was a prostitute 17 years of age. You will note that all these strictures except one were found in the female. I do not think that our text-books on diseases of the rectum are as clear on this subject as they should be. They do not dwell sufficiently on the subject. of pathology. I believe if the general practitioner was a little more careful in his examinations where patients present themselves complaining of pronouncd constipation he would find more strictures of the rectum in his practice. Not long ago I read a paper on this subject before the Tri-State Medical Association of Arkansas, Mississippi and Tennessee. A leading physician and gynecologist of my city, Ten- who has been practicing for twenty-seven years, remarked to me after having read my paper that he had never seen but one case of stricture of the rectum and that was while he was an interne in Bellevue Hospital. It can be readily seen why stricture of the rectum, syphilitic in nature, should occur so much oftener in the female than in the male. The chancre on the posterior wall of the vagina can from contact easily infect the rectum. In these chancres there is often mixed infection, namely, syphilis and gonorrhea. Authorities state that the stricture of the rectum is an expression and a condition, the results of tertiary syphilis. In the analysis of my cases I have found that the proctitis from which the stricture resulted in a majority of the cases developed early along with the secondary eruption.

At Saratoga, in the discussion on syphilis, Dr. Osler used these words: "He who knows syphilis well, knows it all." I will not put it so strongly, but will say: "He who knows syphilis well, is fairly well equipped to practice internal medicine."

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# RAPIDLY GROWING SARCOMA OF THE FEMUR.

## REPORT OF A CASE: DISARTICULATION AT THE HIP JOINT; RECOVERY.*

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ST. LOUIS.

Sarcomata arising from the femur, the bone most liable to become affected, may be grouped according to point of origin into central and peripheral, the first arising from the osteoblastic layer lining the medullary canal and the second from the osteoblastic layer separating the periosteum from the bone. The first group is usually a giant-celled or myeloid tumor, though the spindle or round cell may be found. The second group is usually round- or spindle-celled sarcoma (never myeloid), though mixed, round and giant cells are not uncommon. The peripheral are more painful, occur earlier in life, are more malignant and pulsation is seldom observed.

When growing near the middle of the shaft, the peripheral variety may be restricted to a portion of the circumference or entirely surround it, producing a fusiform swelling. In such specimens the shaft of the bone traverses the tumor and may, beyond a slight amount of erosin, be unaffected by it. In these cases, however, the medulla may become infected by the cells making their way along the haversian canals.

The second group is more liable to the various metamorphoses and degenerations affecting sarcoma generally, and is more liable to calcification and ossification than central tumors. In some instances the affected bone is greatly thickened in the parts related to the tumor.

The extensive ossification associated with periosteal sarcoma is fully understood when we recognize the fact that bone making is the essential feature of the periosteum.

Giant-celled sarcomata are usually of slow growth and involve the lower end of the femur; they are generally regular, spherical, and more or less firm. Owing to the resistance offered by the articular cartilage, neighboring joints are seldom involved until very late in the disease.

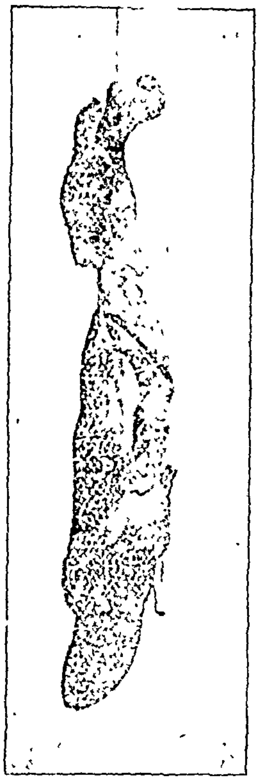
Gross, in reviewing 165 cases of sarcoma of the long bones, found 42 per cent. giant-celled tumors, 21 per cent. spindle-celled osteoid sarcoma, 7.5 per cent. spindle-celled, 7 per cent. round-celled and 4 per cent. pure periosteal spindle-celled sarcoma.

In all varieties the growth attacks the lower epiphyses most frequently. Lymphatic involvement is very unusual, though Loeffler states that it occurs in 13 per cent. of the peripheral sarcoma.

As a rule, where the inguinal and femoral glands are enlarged it is due to other causes, microscopic examination showing no sarcomatous changes. Tumors occupying the center of the diaphysis in growing cause expansion of the osseous boundaries, producing a round- or spindle-shaped swelling, causing the bone to become so thin as to be broken on the slightest exertion. Not infrequently the first symptom which directs the patient to the surgeon is fracture of the bone through the tumor, which, though rare in childhood, is frequent in young adults. It occurs in about 60 per cent. of the cases.

The prognosis of sarcoma is bad; three-fourths are of the periosteal, the most malignant variety. Bland Sutton says the duration of life rarely exceeds eighteen months.

Bork collected 111 cases of disarticulation of the hip joint for sarcoma of the femur operated on in the clinics of Europe, none of which could have been considered cured. Jeckel reported 35 cases operated on in the clinics of König and Bran, 4 cases of which were considered as having completely recovered. He reports having found 6 cases in the literature, more than four years having elapsed in each case without evidence of return. These cases were operated on by Holmes, Rose, Kramer, Weisenger and Von Mikulicz.



Photograph showing the growth occupying the middle third posterior aspect of femur.

### NARRATION OF CASE.

The little boy which I present is James Paul, an American, age 8 years, who presented himself during March, 1901, suffering from pain about the middle of the right thigh.

Family history negative. Has had all the diseases of childhood, though apparently well for two years prior to five weeks ago. He suddenly complained of pain about the middle third of the right thigh; severe, especially at night, of a dull aching character, which constantly increased for several days; then a physician was called, whose treatment consisted of rest in bed, application of heat and administration of opium.

Examination showed the patient to be fairly well nourished, though during the preceding five weeks he had lost 15 pounds. Temperature 103, examination of the urine negative. The chest, abdomen and lower limbs were apparently normal except for a fullness of the lower third of the right thigh.

The measure of the knees across the center of the patellas showed no variation in size, but the right thigh at the junction of the middle and lower third was 3 cm. larger than the left. The knee was flexed and the lower part of the thigh exceedingly sensitive on pressure.

Fluctuation could be detected and a diagnosis of abscess was made. An incision about 5 inches in length, the lower end of which was just above the knee joint, was made, and between six and eight ounces of pus escaped. There was found much enlargement of the middle third of the femur, and a posterior projection was removed and subjected to a microscopic examination. It proved to be a small round-celled sarcoma, and disarticulation at the hip joint was recommended.

The following day a straight incision about six inches in length directly over the center of the great trochanter was made parallel with the long axis of the limb, the circumflex arteries ligated, the trochanteric muscular attachment severed close to the bone, and the capsular ligament was divided transversely at the upper and posterior aspects. The remaining portion of the capsular ligament was severed when the thigh was brought into position of slight flexion. The head of the bone was dislocated on the dorsum of the ilium and the trochanter minor and upper parts of the femur cleansed. The dislocation was then reduced, Wyeth pins inserted, an Esmarch applied and a curved incision made six inches below the great trochanter, the vessels ligated, skin flaps made and thigh removed.

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* Paper read, patient and specimen presented at the forty-sixth annual meeting of the Missouri State Medical Association.

Just thirty-six minutes after the operation was begun the dressings were applied. The patient made a rapid recovery, the wound healing throughout by primary union; he was discharged three weeks later.

The tumor was examined by Dr. B. Meade Bolton, director of the Pathological Laboratory of the Medical Department St. Louis University, whose report is as follows:

"The tumor occupies nearly all of the posterior aspect of the middle third of the femur. It apparently arises from the osteoblastic layer separating the periosteum from the bone. A conical spur of bone, with the base measuring about five square centimeters, attached to the femur, arising at the junction of the lower and middle third. This spur is somewhat spongy, and extends upward and backward for about 10 cm. The bone around the base is eroded, and the posterior face of the femur is also eroded superficially from the base of the osteoma down to the popliteal plane. Firmly attached to this spur of bone, or rather blending into it without a sharp demarcation, is a fleshy mass, which was found to consist on examination of microscopic sections of embryonic connective tissue cells. These were mostly small round cells, but large round cells and spindle cells were also more or less abundant. From the clinical history and microscopic findings the tumor must be regarded as a small round-celled sarcoma, containing also large round cells and spindle cells. The medullary canal and bone marrow are apparently normal."

His condition has steadily improved and there is absolutely no evidence of return. During the last twelve months he has gained 22 pounds.

2900 Washington Avenue.

## Clinical Report.

# A CASE OF MARJOLIN'S ULCER.

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*History.*—In the winter of 1901-2 I saw an elderly gentleman who for over twenty-five years had had an ulcer with bony floor on the back of the right ankle. Originally there had been an open comminuted fracture of the tibia, astragalus and os calcis; this had become infected, there had been necrosis of the bone and exfoliation of fragments, but the ulcer had never healed and some bone had always remained exposed. All this time the man had lived an active business life.

*Commencement of the Ulcer.*—He applied to me because of an increase in the size of the ulcer and considerable pain. I suggested the removal of the dead and infected tissue, to be followed by rest, to permit healing. This was accepted, and the operation was done under cocainization of the sciatic nerve. For a time things went well and healing was in progress, but in about two months the pain returned and the wound began to ulcerate again, and this was most marked at the lower end, where a pit of considerable size was formed in the os calcis.

At this very time there grew up, out of the middle of the ulcer, a tuberous mass, fully 1.5 cm. across and equally as high or higher. From the first it was differentiated from the surrounding ulcerating surface; it bled easily, and was without sensation. Clinically, I thought it a sarcoma, as did two other surgeons, a physician and a pathologist. The latter was not wholly convinced, for he had examined portions of the mass, had found it to be only granulation tissue and could not agree with the clinical opinion, but he agreed with all of us that the leg should be removed.

*Operation.*—This was done by amputation through the upper third of the leg, for the mass grew from the os calcis and not from the tibia. In another individual we might have been induced to go higher for the amputation, but a thigh amputation was considered too much risk for this old man who had sclerotic arteries and a bad heart. The operation was done under spinal cocainization. Healing was uneventful, and in due time an artificial leg was put on and the patient returned to his business. The amputated leg was sent to the laboratory, examined and sketched and portions of the margin of the ulcer sectioned and examined, but nothing was found.

*Recurrence.*—In about four months a tumor mass appeared in the popliteal space and was promptly removed under sciatic cocainization. The wound healed, but other masses soon appeared and replaced the first, pain supervened, later came ulceration and the whole clinical picture of extensive secondary epithelioma. Epithelioma had been the laboratory report from the first popliteal mass, and further search of the margin of the ulcer in the heel showed that at the lowest part, and only there, there was a primary epithelioma and that the lesion was a "Marjolin's ulcer."

*Comments.*—The case is reported because of its rarity. Da Costa[1] reported two cases and discussed the subject. He calls special attention to the changes which occur when a chronic indolent ulcer takes on malignant character; the beginning of pain and tenderness, the increase in the discharge, which also becomes foul, and the special induration and later ulceration of one part of the ulcer edge. None of these characteristics were present in the ulcer when I first saw it. Henry R. Wharton, in discussing Da Costa's paper, referred to four cases. In two the injury which resulted in the ulcer had been received in the War of the Rebellion and the cases seen only in recent years. In the third case the ulcer had existed thirty-eight years, and in the fourth fifty-eight years.

In the present instance the diagnosis was not made until the secondary growth made it for us. Even then the clinical expectation was that the laboratory report would be sarcoma because of the confusion arising from the curious mass of exuberant granulation tissue. A second study of the ulcer's margins showed that the epithelioma occupied no more than one-eighth of the periphery; that there was no induration at that point and no tumor; only, in fact, a little crater in the edge of the floor of the ulcer dipping down into the subjacent bone.

How long the epithelioma had been in existence I do not know; certainly it antedated the first operation, for the ulcer was not "chronic" after that date, and quite long enough, too, for a metastasis to occur before the amputation. At the same time this case, with those quoted, goes to show that it takes a very long time for irritation to inaugurate a malignant growth in a chronic ulcer.

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1. Annals of Surgery, April, 1903.

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**Diabetes in Children.**—Berkenheim announces from Kissel's clinic at Moscow that diabetes is not so rare among children as generally supposed. Bogoraz collected 500 cases in 1899. Berkenheim describes in detail the 2 cases observed in his experience, both terminating fatally. The mortality in Bogoraz's statistics was 90 per cent., and 13 of the children were under 1 year of age; 92 between 1 and 5; 147 between 5 and 10, and 234 between 10 and 15. The course of the diabetes is much more rapid than in adults, and is characterized by large output of sugar with little urea. Incontinence of urine is an important symptom, and any intercurrent or complicating infection materially reduces the amount of sugar in the urine. Edema is much less frequently observed than in adults. His communication is published in the *Klin.-therapeutische Wochenschrift*, X, No. 28, 1903.

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## THE NEURONE DOCTRINE.

When, in 1891, Professor Waldeyer of Berlin brought together the histologic, embryologic and pathologic data regarding the unit in the nervous system and called that unit the "neurone," the term met with widespread acceptance. It served to crystallize, as it were, in a single expression, the qualities of the nerve unit which had been detected by the developmental studies of His, the pathologic researches of Ford and von Monakow and the morphologic investigations of Ramon y Cajal.

Since the term was introduced, however, further facts regarding the histology and physiology of the nervous system have been discovered. Our knowledge of the existence of delicate fibrillæ within the nerve cell protoplasm has been extended by the exquisite methods of Apathy and Bethe, the existence and distribution of those delicate particles known as "neurosomes" have been demonstrated by Held, the networks of Golgi and Bethe in the periphery of the nerve-cell body and the dendrites have been made the objects of special study, and a number of researches have dealt with the interesting question of the exact character of the relations of one neurone with another in various parts of the nervous system.

When Waldeyer wrote he was of the opinion that the nerve units or neurones possessed anatomically and physiologically a relatively complete independence of one another; he supposed that the terminals of one neurone entered only into contact relation with the cell bodies and dendrites of other neurones, but he took especial pains to point out that were this not true and were the interneuronal relations more intimate than that of mere contact, the doctrine of nerve units or neurones could still be held.

Two bitter antagonists of the neurone doctrine have been waging war against it in Germany. Nissl of Heidelberg and Bethe of Strassburg have fought it vigorously, each declaring that the conception of the nerve units is untenable and out of accord with known histologic and physiologic facts. On the other hand, the neurone doctrine, in spite of all objections raised against it, has been strongly supported by Barker in America, by Waldeyer, von Lenhossek, Verworn and Ziehen in Germany, by Mott in England, by Ramon y Cajal in Spain, and by Van Gehuchten in Belgium. Some of these authors, it is true, are unsettled as to the exact character of interneuronal relations which exist, and especially as regards the so-called contact relation, but this question they look on as only one phase of the great problem, far less important than the main anatomic, physiologic and pathologic facts on which the doctrine as a whole is based.

One of the strongest champions of the neurone doctrine in its totality, even to the reassertion of the contact connection as the only interneuronal relation, is the distinguished neurologist of Madrid, Professor Ramon y Cajal. In a recent article,[1] this investigator not only supports the neurone doctrine and the idea of interneuronal relation by contact, but attacks the very foundation of Bethe's and Nissl's objections. He declares that Bethe has mistaken a pericellular precipitate for a nerve network, denies any continuity between the terminals of axons and collaterals and the intraprotoplasmic neurofibrils of the cells on which they end and urges that Bethe's method is unsuited for the solution of the problems on which he works. The article is a strong arraignment of the tenets of the anti-neuronists, and while we can not go into all its details here, we would call to it the attention of those of our readers who are interested in the controversy.

## TUBERCULOSIS IN PRISONS.

It is encouraging to find that the attention of prison authorities and reformers is at last turning to the question of tuberculosis in prisons. The State of New York has led the way in providing the first isolation wards for the treatment of tuberculous prisoners, and the fifty-eighth annual report of the New York Prison Association discusses this question at some length. Conditions in the penitentiaries of this state certainly called for some vigorous action. Sing Sing is described as a "nest of tuberculosis," and Auburn is said to be little better. The third penitentiary is at Dannemora in the Adirondacks, and has a climate which has been proved to be favorable for the treatment of tuberculosis.

For some time it has been the custom to transfer tuberculous prisoners from Auburn and Sing Sing to Dannemora. In the ten-year period, beginning with 1891, 796 such cases have been thus transferred. During the first five years the total number of deaths from tuberculous diseases was: Sing Sing, 86; Auburn, 133; Dannemora, 34; total, 253. Up to the end of this first period little attention had been paid to the subject of tuberculosis in prisons and institutions, beyond the transferring of many to Dannemora, but during the succeeding five years far more systematic and effective methods of treatment and isolation have been adopted with the following results: The number of deaths in Sing Sing was 23; Auburn, 27; Dannemora, 22; a total of 72 deaths, which means an improvement of 71 per cent. in the second period over the first. Dannemora now has a new ward for tuberculous patients, although its accommodations are still far from adequate. It has an exercise court, and the prisoners are kept in the open air as much as is consistent with prison environment.

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[1] Consideraciones Criticas Sobre la Teoria de A. Bethe Acerca de la Estructura y Conexiones de las Celulas Nerviosas. Trabajos del Lab. d. investig. biol. de la Univ. de Madrid, t. II, 1903, pp. 101-128.

Most American prisons were built before the infectious nature of tuberculosis was a generally accepted fact, and it is doubtful if any great prison has yet been built with an intelligent purpose to protect prisoners from tuberculosis. At any rate, it must be admitted that by far the greater number of penitentiaries serve as well-planned incubators for the cultivation of tubercle bacilli.

In Joliet, Ill., there seems to be a typical prison of this sort. Its last biennial report states that on account of the overcrowding it is necessary to place two prisoners in many cells whose dimensions are seven by seven by four feet, and continues thus:

> When one thinks of two men spending never less than fourteen hours each day during six days of the week, and on the seventh day nearly twenty-one hours, in a space so reduced, and with a slop bucket in the cell for their use in responding to calls of Nature, which no care can prevent from being offensive and pestilential in every sense of the word, he is compelled to ask what excuse the great State of Illinois can offer for compelling the management of this penitentiary to so deal with men who are required by law to serve sentences here. . . . .
>
> One visit to the cellhouses during the night time, a few breaths of the atmosphere coming from them, is all that is necessary to convince the most skeptical that the half has not been told by us, and we here and now enter our solemn protest against the continuance of such a system of herding men together to the detriment of their physical and moral natures.

The spread of tuberculosis must be favored by such conditions, and it seems almost impossible to accept as conclusive the optimistic health statistics in this report. We suspect that the practice of paroling prisoners in the last stages of consumption in order that they may die at home (a practice against which we have nothing to say), exists at Joliet, as in some other prisons, and it is largely responsible for the low death rate. The other Illinois penitentiary, at Chester, makes no such favorable showing. Fifty-six per cent. of the total number of deaths at Chester were from tuberculosis, an increase of 21 per cent. over the preceding two years, and the last report makes a strong appeal for suitable provision for the isolation and care of tuberculous prisoners.

Of course, we can not expect from the most favorable prison conditions as good results as from the usual sanatoria, where patients have their freedom and a more generous dietary than will be supplied in prisons. Yet in view of the increased knowledge as to the physical conditions necessary for the prevention and care of tuberculosis, and in view of the fact that the prison patient can be absolutely controlled by his physicians, we may yet hope that before too long tuberculosis may be stricken from the list of diseases contracted in prison.

## THE CAUSE OF SCARLET FEVER.

From time to time announcements are made to the effect that the cause of scarlet fever has been discovered, but so far none of these assertions has received general acceptance. Even the assertion that scarlet fever is a streptococcus disease has not proved itself successful, in spite of the almost constant association of local and general streptococcus infections at least in severe cases of scarlet fever, principally because the streptococci isolated from cases of scarlet fever do not differ from the ordinary streptococci, and because of the further fact that while one attack of scarlet fever, be it ever so mild, confers a permanent immunity to subsequent attacks; this unfortunately does not hold true in regard to the various forms of streptococcus infection with which we are familiar.

It is significant, too, that while the recent studies of smallpox show that more or less extensive streptococcus infection occurs in practically every severe and fatal case of this disease, yet we do not think that any one would venture the assertion that smallpox is a streptococcus disease. In other words, there seems to be an analogous susceptibility to secondary streptococcus invasion in both scarlet fever and smallpox, a susceptibility that on account of the ubiquity of streptococci only too often is fraught with the greatest dangers to the patient. Concerning the assertions that certain bacilli and cocci are the cause of scarlet fever, we believe that the less said the better. Some of these assertions have been made the object of extensive exploitation in certain quarters that savor more of self-glorification than of true scientific spirit.

The description by Mallory of certain bodies in the skin of four cases of scarlet fever dying within forty-eight hours of the appearance of the eruption, bodies which he believes are protozoa, may be said to carry the investigation in the etiology of scarlatina into a new field. In another column of this number we give the principal points in Mallory's paper. It will be seen that the evidence of the nature of these bodies so far rests wholly on morphologic grounds. While it is true that it may be "difficult to explain these bodies as artefacts or as degenerations," yet it seems only fair to emphasize, first, that the protozoan, or speaking broadly, organismal nature of these bodies has not been proven definitely; and, second, that whatever their nature, their etiologic relation to scarlet fever is as yet equally lacking in definite proof, a fact that Mallory himself, though personally convinced of their protozoan nature, is far from asserting as established—a conservative attitude that must appeal to all who are familiar with the tremendous difficulties at present in the way of this form of investigation. The most that can be said now is that the finding of these bodies, which no doubt is largely owing to the great technical skill of their discoverer, and the interpretation as protozoa by an investigator of Mallory's healthy conservatism, give us reason to regard as not unreasonable the hope that eventually this may prove the first step in unveiling the hitherto so well-guarded cause of scarlet fever.

### TRADES UNIONISM AMONG HOSPITAL ATTENDANTS.

In a communication published elsewhere in this issue, a state of affairs is noticed that certainly deserves the attention of the profession, as it bears on a medical question, and a very important one—the care of the helpless insane. In the Cook County Asylum for the Insane, at Dunning, near Chicago, a labor union has been formed among the attendants and employes which is now demanding an increase of wages and a uniform scale. The former item is one for the taxpayers to consider. It seems to be a fact, however, that this institution has paid the highest wages with probably the worst service of any insane asylum in the State of Illinois, not to speak of other states where the wages are still lower.

A uniform scale, however, is a general leveling down and would make it impossible to obtain adequate service. Moreover, the mere organization of a union, taking out of the hands of the officials of the institution to a large extent the discipline and control of the employes, is a matter that should be protested against most emphatically by everyone who has the welfare of the helpless charges at heart. It is only at long and rare intervals that the institution has had a competent physician at its head. Some years ago an alienist of reputation held the place for a short time, but was finally ousted by the powers that were, but the good fight he made assisted in sending a number to the penitentiary for varying terms of public service. At the present time the institution has a man at its head who has reputation and experience, and it was hoped that he would have the free hand that is absolutely necessary to carry out the needed reforms. We do not think that the board of county commissioners is corrupt, as was the case in the former instance, but if it has not the backbone to resist the demands that are made on it by these outside organizations, it will be almost equally guilty, though unfortunately not equally punishable. The position of attendant in a hospital for the insane is not a hard one; the hours are long, but the work is interesting and the employment is considered very desirable by good attendants who have interest in their work. There is comparatively little risk, and much chance for personal improvement for individuals desiring it. In times past the positions at Dunning have been counted among the minor political plums and sought for accordingly. Therefore, the plea of hardships, etc., is a fictitious one, and should not be seriously regarded. Dr. Podstata shows that at the present time the pay is far above that of similar institutions. The question now is whether the insane of Cook County are to be under the control of the walking delegate or the skilled medical superintendent, who must have full control to regulate the 'discipline of the institution for the best interests of those under his charge.'

Not long ago a labor organization, whose oath and obligation required fealty to it above all other obligations, religious and political, attempted to dictate to the United States Government and made a weak-kneed official yield, but ran against a rock a little later. Still more recently the organization of the fire department of the City of Chicago had to be promptly sat on by the city authorities. A similar movement which has made greater progress and become more firmly established in this public institution deserves the same treatment. No man entering public service should owe allegiance to any outside authority or organization; a labor-union "pull" and a political "pull" should be alike excluded. We trust the profession will take this matter up; otherwise we may see the expected reforms in the Cook County institutions defeated and the establishments relegated back to their former unenviable notoriety.

### THE REPORT OF THE FRENCH YELLOW-FEVER COMMISSION.

In 1901 the French Government sent a commission to Rio Janeiro to investigate yellow fever. This commission was composed of MM. Marchant, Salimbeni and Simond, and it was placed under the scientific direction of the Pasteur Institute in Paris. The report[1] of this commission makes most interesting reading for American physicians, because it contains unequivocal confirmation of the epochal investigations of Reed, Carroll and Agramonte in regard to the mode of infection and the deductions therefrom as to prophylaxis—deductions of paramount importance, and the soundness of which have been demonstrated already in the most brilliant manner by the great work of Gorgas in the sanitary rejuvenation of Havana. The work of the French commission is noteworthy on account of the co-operation of over twenty men who nobly subjected themselves to the risks of the inoculations. Yellow fever is now a controllable disease, to a large extent robbed of its terrors and deprived of its former destructive effects on commerce.

Of the many details established by the French commission, special mention may be made of the following: The serum of yellow-fever patients is virulent up to the third day of the disease, but not later, and 0.1 c.c. (one-tenth) of virulent serum suffices to produce the disease when injected subcutaneously. The virus traverses the Chamberland filter-bougie F without dilution, but not the bougie B of the same system. This is in accord with the observation of Reed and his colleagues, who showed that the virus passes through Berkefeld filters. Hence the yellow-fever germ, whatever its nature, must be classed with the so-called invisible microorganisms. Heating the serum to 55 C. for five minutes renders it harmless, and the injection of heated serum produces a relative immunity which becomes complete on the additional injection of a small quantity of virulent serum. The serum of convalescents has distinct preventive and therapeutic properties. The French investigators confirm to the letter the assertions of Reed, Carroll and Agramonte that yellow fever is produced by the sting of *Stegomyia fasciata* infected by biting yellow-fever patients. During the first three days of the disease, the infected mosquito becomes dangerous at an interval of at least twelve days after sucking the virulent blood. As in Cuba so in the region of Rio Janeiro, no other mosquito but *Stegomyia fasciata* plays any part in the transmission of yellow fever, and as the disease under natural conditions does not appear to be transmissible in any other way, the prophylaxis of yellow fever rests wholly on measures that prevent *Stegomyia fasciata* from biting yellow-fever patients and healthy persons.

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[1] Annales de l'Institute Pasteur, November, 1903.

It is important to note further that *Stegomyia fasciata* is commonly inhabited by various parasites—molds, yeasts and protozoa—none of which, however, appears to have anything to do with the transmission of yellow fever. The French investigators studied this phase of the problem thoroughly, and their results seem to support the criticisms of Carroll[2] that the alleged discovery by Parker, Beyer and Pothier of the protozoan cause of yellow fever lacks foundation.

### CREDIT DUE AMERICAN INVESTIGATORS.

Apropos to the above comments on the Report of the French Yellow-Fever Commission, we recall that a daily paper a few days ago commented in a somewhat disparaging manner on the fact that so far no American scientist or writer has been made the recipient of a Nobel prize. Thus it is stated that "it is strange that with all the facilities for original research this country now has they have not been utilized to better advantage." We believe that a knowledge of the work of Reed and his coworkers in yellow fever and of its far-reaching consequences is fully sufficient to convince any intelligent person of the injustice of this reflection on the achievements in recent years of scientific medicine in America. It is far from our intention to question the judgment and the fairness of the committee in charge of the distribution of the Nobel prizes—its members undoubtedly have difficulties of their own—but no one will dispute, for a moment, the title of the medical officers of the U. S. Army, led by the lamented Reed, to the fullest recognition and reward that it is within the power of human gratitude to give, for their work in solving the etiologic riddle of yellow fever. The untimely death of Walter Reed has placed him beyond the reach of personal reward at the hands of his fellowmen, but his achievements, though uncrowned by prizes and honors, always will remain one of the chief glories of American medicine.

### TAX ON AVOIRDUPOIS.

A Swedish municipality, it is said, has established a tax on its overweight citizens; all above normal weight must pay a graded tax according to their avoirdupois. Great weight will be a luxury in that community. It is said that the scheme is not for revenue, as might be supposed, but in the interest of good health and good morals and dietary reform. The reformers think that their people eat too much, and that both economy and health will be favored by the tax. Inasmuch as some poor people gain in weight not by drinking beer or by taking too much carbohydrates or otherwise, but suffer from an unfortunate peculiarity of metabolism, this tax seems a little unfair. Nevertheless, if those who suffer from adiposis dolorosa and similar diseases could be exempt from the tax, it might be a good thing. A little more exercise and work would not only bring down the extra avoirdupois, but would also add to the health of the individual.

### THE GOSPEL OF DIRT AGAIN.

The newspapers at the present time are discussing[1] the utterances of an aberrant eclectic whose new gospel of dirt was noticed in THE JOURNAL on a former occasion. He has apparently still further emphasized his former opinions, and states the unfortunate results of bathing, illustrating it by the case of a poor Eskimo who came to this country and took a bath, dying almost immediately of pneumonia. The gentleman evidently does not know that Eskimos do bathe, and that while their methods of cleansing themselves are not very attractive, they are eminently effective, and the fact is that the Eskimo is as proof against pneumonia due to bathing as any white man who indulges in it habitually. It should be said in this connection that this gospel of dirt is being credited as having been given out before the Chicago Medical Society, a body which would certainly have repudiated the man and his opinions alike. It was not the Chicago Medical Society, but an eclectic society.

### ILLEGAL ADVERTISEMENTS IN IOWA.

A Michigan law making revocable the license of any physician publishing illegitimate advertisements in the newspapers has been commented on already in THE JOURNAL. The law in Iowa would be still more effective if it were only enforced. In the *Iowa Medical Journal*, December 15, Dr. H. B. Young calls attention to Section 4954 of the Iowa statute, which reads: "Whoever prints or publishes, or causes to be printed or published, in any newspaper published or circulated in this state, any advertisement of medicine, drug, nostrum or apparatus for the cure of private or venereal disease, or shall circulate or distribute any newspaper containing such an advertisement or notice, shall be guilty of a misdemeanor, and shall be fined not more than $1,000 nor less than $50, or shall be imprisoned in the county jail not more than one year, or both." Under this statute Iowa ought to be free from objectionable advertisements of the character mentioned, but we fear that the law is very seldom enforced. It is unfortunate, moreover, that the statute does not cover other objectionable advertisements that are inserted in the newspapers that are just as evil in their origin and tendencies as those specified. It would probably not be difficult to have such added by amendment. Young suggests to the members of the medical profession that they do their part in aiding in the enforcement of the statute as it now exists. The editor of the *Iowa Medical Journal* says that the main thing necessary will be for the committee on public health and legislation in each county society to call the attention of the offending parties to this law, and to stimulate the county attorney, when necessary, to take action.

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[2] THE JOURNAL, Nov. 28, 1903, p. 1341.

[1] In this connection see "Miscellany" in this issue, p. 47.

### TECHNIC IN TREATMENT OF ALCOHOLISM.

There has always been a difference of opinion as to the proper management of delirum tremens, and even in the text-books there is a variety of recommendations as to the immediate or the gradual withdrawal of alcohol. In a recent paper[1] Dr. J. F. Kelly, assistant physician at the Cleveland State Hospital, states that the results of his experience indicate that the shutting off of alcohol at once is a dangerous procedure and that alcoholic drinks must be gradually reduced. The question whether delirium tremens is due to abstinence from alcohol is answered, he says, in a spirit of inquiry rather than of assertion in the affirmative. We are well aware that popular notions attribute delirium tremens to the sudden abstinence from alcohol in a habitual drinker, but medical opinion has rather been to the contrary. It is the general experience of the profession that delirium tremens is the result of a continued excess or exacerbation of the drinking habit. Cases that have been seen of the actual delirium tremens following sudden cessation of alcohol must at least have been rare in medical experience, still extreme nervous disturbances and actual maniacal attacks have been reported as the result of the sudden cessation of alcohol, but exceptional rather than as a rule. Dr. Kelly states that he has frequently seen patients in whom delirium tremens developed from sudden withdrawal of the alcoholic drink, while with gradual cessation of the alcohol no such symptoms were observed. It is not improbable that alcohol, like other poisons to which the system becomes to a degree habituated, causes a condition from which more or less disorder results when the customary stimulus is withdrawn; but the danger of such an event would appear to be rather less than after the sudden withdrawal of morphin. The question is worthy of further investigation. We may have to give qualified statements as to the advisability of cutting off alcoholic drinks, at least in some cases, but ultimate withdrawal is, of course, necessary. With the judicious use of nerve stimulants complete withdrawal may be the best in skilled hands.

### THE ABANDONMENT OF THE WORLD'S CONGRESS OF MEDICINE.

We have received a copy of a pamphlet addressed to the medical profession of the United States and issued by the committee on organization of the World's Congress of Medicine which was to have been held in St. Louis in September, 1904, under the auspices of the Universal Exposition Company, in which is given a history of the creation of the committee, an account of the work done and the causes which led up to the resignation of the committee and the abandonment of the congress. The committee, consisting of Drs. W. E. Fischel, L. H. Laidley, F. J. Lutz, W. G. Moore and H. Tuholski, all of St. Louis, is deserving of the highest praise for the work it did, and commendation for resigning and giving up the congress when it found that it was to be subordinate to and dominated by the management of another congress, which had no direct interest in the success of the medical congress. The general plan of the proposed medical congress, as outlined by the committee, and on which an enormous amount of preliminary work had already been done, would have resulted in one essentially different from the international congresses as heretofore held. This is the principal reason why it is to be regretted that it could not be carried out. As we understand it, the main cause of the abandonment of the medical congress was that a Congress of Arts and Science had been arranged, which is to have departments covering practically all of medicine and surgery; consequently, a conflict might have been expected. Arrangements, however, were proposed by which the officers of the Congress of Arts and Science were to co-operate with those of the World's Congress of Medicine, the latter to be held a week later than the former; and all papers, etc., relating to medicine in the subdivisions of Department 15 and all of Department 18 of the Congress of Arts and Science were to be reserved for and transferred to the medical congress. It is a pity that this arrangement could not have been carried through. Meanwhile the national advisory council of the World's Congress of Medicine, a body created to aid the committee on organization and composed of representative medical men of the United States, at its last meeting passed a resolution in which it decided to co-operate in making the Congress of Arts and Science a success.

## Medical News.

### COLORADO.

**November Deaths.**—During November 719 deaths were reported, an annual death-rate of 15.15 per 1,000. Diphtheria caused 15 deaths; scarlet fever 6, and typhoid fever 44.

**Hospital Wing Soon Opened.**—The new wing of St. Luke's Hospital, Denver, and the Katherine Hallett Home for Nurses are almost completed, and will soon be ready for dedication.

**Diphtheria and Antitoxin.**—For the six years before the discovery of antitoxin the mortality percentage of diphtheria in Denver was 36.4. For the eight years following its discovery the mortality percentage was 9.97.

**Officers Elected.**—The newly elected officers of the Otero County Medical Society are: Dr. James F. Kearns, La Junta, president; Dr. Carl Myer, Rocky Ford, vice-president; Dr. E. Gard Edwards, La Junta, secretary, and Dr. Albert L. Stubbs, La Junta, treasurer.

**Morbidity.**—During November, 100 cases of diphtheria, 151 of scarlet fever, 60 of smallpox and 321 of typhoid fever were reported; an increase of 56 cases of scarlet fever and 21 cases of smallpox, and a decrease of 5 cases of diphtheria and 121 cases of typhoid fever as compared with the previous month.

### DELAWARE.

**Tuberculosis Hospital Open.**—The new tuberculosis hospital in connection with the Delaware State Hospital, Farnhurst, has been completed and is receiving patients.

**Personal.**—Dr. Peter A. M. Rovitti, Wilmington, has been reelected physician for the Italian Mutual Beneficial Society, and was also elected physician for the St. Anthony Mutual Beneficial Society, succeeding Dr. Henry W. Briggs.

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[1] Cleveland Medical Journal, November.

**Work of the Laboratory.**—The director of the Pathological and Bacteriological Laboratory of the Delaware State Board of Health, Newark, reports that during July, August and September, 343 analyses and examinations were made.

**Smallpox.**—Two cases have occurred in the St. James Protectory at Reybold, both of which were, it is claimed, imported from Philadelphia. At Woodland 25 out of the population of 100 are said to be affected, and seven deaths have occurred.

## ILLINOIS.

**Wabash Hospital Open.**—The new hospital erected by the Wabash Railway at Decatur has been completed at a cost of $60,000. The hospital is fully equipped and has accommodation for 50 patients.

**Ordered to Refund.**—Dr. Henry C. Neff, an itinerant specialist of Chicago, who contracted to cure a case of catarrh at Kankakee for $56 or refund the money, failed to accomplish the cure, and judgment for the amount was rendered against him by default.

**Abjure Connection with Institution.**—Of the 30 physicians of Freeport, 27 join in a public disclaimer of their connection with the so-called "City Physicians' Laboratory," whose establishment has recently been heralded through the daily press. They furthermore deprecate the methods used as likely to mislead the public, and to attract unbecoming attention to the profession.

**Sanitary Investigation of Cities.**—The State Board of Health has just concluded a sanitary investigation of seventy-five cities of Illinois, the public water supply of which has been subjected to a careful chemical and bacteriologic analysis. In the greater number of cities the water has been pronounced good. In those in which there was evidence of contamination in the water supply, the board has consulted with the local authorities in the endeavor to discover the cause of the pollution and suggest a remedy. Sanitary officers of the board have been sent to the majority of cities for the purpose of investigating unsanitary conditions and to advise the local authorities as to the steps necessary to prevent an outbreak of disease.

### Chicago.

**Thousand for Hospital.**—By the will of the late B. Kuppenheimer $1,000 is devised to the Michael Reese Hospital.

**Children's Department Open.**—The Provident Hospital has opened a department for children, and has established a free clinic for children on Tuesdays and Fridays from 2 to 4 p. m.

**Decrease in Mortality.**—Contrary to the indications of the previous fortnight or so the week's death rate decreased from 15.20 per 1,000 in the week of December 19 to 14.21 in the Christmas week—a decrease of nearly 6.5 per cent. As compared with the corresponding week of last year, when the rate was 17.12 per 1,000, the decrease is almost 17 per cent. This result was wholly unlooked for in view of the character of the weather since Thanksgiving week, and it is still more remarkable when the pneumonia mortality is considered. The total 139 deaths from pneumonia are the highest for any December week on record. They form 27 per cent. of the total mortality from all causes, while the forty-nine deaths from consumption are less than one-tenth the total deaths of the week.

## IOWA.

**Elects Officers.**—The Jasper County Medical Society met at Colfax, December 16, and elected Dr. Louis S. C. Turner, Colfax, president; Dr. F. LeMoyne Smith, Monroe, vice-president, and Dr. Harry P. Engle, Newton, secretary and treasurer.

**Itinerant Sentenced.**—W. C. B. Bullard, an itinerant medicine man of Des Moines, was found guilty of obtaining money from patients under false pretences, and was sentenced to imprisonment for 18 months in the state penitentiary at Anamosa, and to pay all costs.

**Personal.**—Dr. Ferdinand J. Smith, Alton, is to teach pathology in Drake University Medical School, and sails for Germany January 4. He will remain abroad until September.——Dr. Edward S. Bowman, Davenport, has resigned as physician of Scott County.——Dr. James McCartney, Davenport, after living half a century in Davenport, has decided to move to Chicago.——Dr. Charles L. Barewald, Buffalo, has been elected county physician of Scott County.

**Demand Revision of Laws.**—At the recent quarterly meeting of the State Board of Health, a revision of the laws relating to the medical profession was recommended in the following three particulars:

The creation of a special bacteriologic department, which shall have an appropriation of at least $5,000 a year.

Power to act in all cases where it is believed there is danger in an epidemic or disease, even when there has been no outbreak.

Power to accept the certificates of physicians from other states that exact the same preliminary training and subsequent examination as Iowa.

## KENTUCKY.

**Hospital Dedicated.**—The dedicatory exercises of the Jewish Free Hospital, Louisville, were held, December 19, with impressive ceremony.

**Smallpox.**—Richmond and Madison Counties are said to be in the grip of an epidemic. At present there are 14 cases.——The school at Quick's Run has been closed on account of the disease.——Hart County reports an epidemic of a mild form of the disease.

**Personal.**—Dr. Joseph M. Mathews, Louisville, has been awarded $200 damages against the Louisville Railway Company for injuries received some time ago.——Dr. Thomas Morgan, Lexington, has been appointed to the chair of experimental zoology in Columbia University, New York.

**Elections.**—Fayette County Medical Society held its annual election in Lexington, December 15, with the following result: President, Dr. N. Lewis Bosworth; vice-president, Dr. Nathan R. Simmons; treasurer, Dr. James W. Wilson; secretary, Dr. Daniel J. Healy; censor, Dr. Porter Prather, and delegate, Dr. Thomas H. Kinnaird, all of Lexington.——Jefferson County Medical Society, at its regular meeting, December 15, elected the following officers: President, Dr. H. Horace Grant, Louisville; vice-president, Dr. Joseph Hopson, St. Matthews; secretary, Dr. Henry Enos Tuley, Louisville, and treasurer, Dr. Sidney J. Meyers, Louisville.

## MARYLAND.

**Medical Staff Appointed.**—The following have been elected to the executive committee of the medical staff of the Annapolis Emergency Hospital: Dr. George Wells, chairman; Dr. William S. Welch, secretary; Drs. J. J. Murphy and Charles B. Henkel.

**Where Rush Was Taught.**—The annual banquet of alumni of West Nottingham Academy, Cecil County, was held December 18. It was at this academy that Benjamin Rush received his academic training. It was established in 1741 by Samuel Patton, afterward president of Princeton College, and has had 162 years of continuous existence.

### Baltimore.

**Deaths of the Week.**—There were 199 deaths last week, an annual rate of 18.83 per 1,000. Among the chief causes were pneumonia, 29; heart disease, 21; consumption, 19; Bright's disease, 17; cancer and diphtheria each 6, and typhoid fever, 4.

**Pollution of Water Supply.**—There are about 500 cases of pollution on the watersheds of the city's water supply known to the water department. The city solicitor is waging strenuous war on these, especially about 100 due to dwellings. Suit has been instituted already in test cases.

**The Herter Lectures.**—Prof. Paul Ehrlich, director of the Institute for Experimental Therapeutics, established by the German government at Frankfort-on-the-Main, has been selected to deliver the first Herter lectures at the Johns Hopkins Medical School. These lectures are designed to promote a more intimate knowledge of the researches of foreign investigators in medical science. The lectures will be in German and will be given in April. The subject will probably be "Researches on Immunity."

**An Embryo University.**—An arrangement has been effected by which the Baltimore Medical College and the Baltimore Law School are affiliated. After the end of the present session the latter will occupy apartments in the building of the former. It is said that the two institutions contemplate consolidation under a university charter. The medical school was founded in 1880, and is operated in connection with the Maryland General Hospital and a dental school. The law school was founded in 1900. Both have good faculties and large classes.

**Sewerage Bill.**—The sewerage bill approved by the mayor and board of estimates provides for a $10,000,000 loan, to be ratified by the people. The sewer system is to be built by an unpaid commission (except the chairman, who receives $5,000 annually) to be appointed by the mayor, of three republicans and three democrats, with the mayor ex-officio a member. The appointments are to be confirmed by the second branch city council and meetings of the commission are to be public. The commission has power to condemn land, construct the system and require private corporations now using the streets to shift their conduits to make way for the sewers. The work is to be done by contract. House sewage is not to be discharged into the Chesapeake or its tributaries. Buildings are to be connected with the system at the expense of owners and under supervision of the commissioner of health. As soon as the system is ready to relieve 300 buildings, a system of annual sewerage rates is to be established by the mayor and city council.

## MASSACHUSETTS.

**Nurses' Home.**—Medfield Hospital is to have a new nurses' ward two and three stories high, 180 by 140 feet.

**Health Laws.**—The State Board of Health has issued a manual containing all the laws of Massachusetts in regard to health and the decisions made by the Supreme Court relative thereto.

**Diphtheria Epidemic Denied.**—Much has been made in the public press of the prevalence of diphtheria at Harvard. A prompt denial of any danger has been issued by the dean, who suggests the newspaper source of the scare.

**Suggested Appropriations.**—The Massachusetts state auditor suggests the following appropriations to the legislature for the coming year: State Board of Charity, $532,600; Board of Registration in Medicine, $6,850; Cattle Bureau of the Board of Agriculture, in order to avoid releasing tuberculous cows, $100,000, and School for Feeble Minded, $66,248.

**Money to Hospitals.**—The will of the late George W. Boyd leaves $12,500 to Maine General Hospital, Portland, Me.; $5,000 to the Memorial Hospital for Women and Children, Brooklyn, N. Y.; $5,000 to the Children's Hospital, Boston, $1,000 to the Cullis Consumptives Home, Boston, and a reversionary interest of $25,000 to the Massachusetts General Hospital.

**Athletes at Harvard.**—Dr. George L. Meylan, Columbia, in a paper read before the Boston Physical Education Society on "A Study of Harvard University Oarsmen from 1852 to 1892, Inclusive," finds no harm has resulted to the men from the violence of their training or exercise. They average 7½ years longer life than normal, are more apt to marry, and have larger families than the average Harvard men. Moreover, there are more than the average number of "prominent Americans" included in the 152 men thus studied.

## OHIO.

**Medical Corps Reorganized.**—The adjutant general has issued an order for the reorganization of the entire medical department of the militia to conform with the usages and regulations of the United States Army.

**Medical Library for Toledo.**—A medical library has been started in Toledo with cash subscriptions of $200, and a collection of about 2,000 volumes. Rooms have been rented in the residence of the late Dr. George A. Collamore, and Mrs. Collamore is expected to serve as librarian.

**Smallpox.**—The prevalence of the disease at Washingtonville is causing alarm, as there are now 10 cases, and as less than one-half of the school children have been vaccinated.——Gallia County reports several deaths. Two cottages at the Ohio Hospital for Epileptics have been quarantined.——In the west end of Washington County 18 cases have developed during the last few days.

**Under New Management.**—The *Cincinnati Lancet-Clinic*, which has been under the editorial management of Dr. J. C. Culbertson for the past thirty years, will, with the issue of Jan. 2, 1904, present many changes. Dr. Culbertson, while retaining his financial interest in the journal, will retire from active work. Dr. Mark A. Brown will be editor-in-chief and Dr. Frank B. Cross, business manager. Dr. Brown will have associated with him a large corps of associate editors in the various specialities, comprising some of the best-known physicians of Cincinnati. With so capable an editor-in-chief, and so distinguished a staff, the *Lancet-Clinic* should press forward to new scientific and journalistic success.

## PENNSYLVANIA.

**Tuberculosis Hospital.**—The Department of Charities of Pittsburg has asked for an appropriation of $50,000 to build a hospital for the tuberculous.

**Typhoid in Pittsburg.**—There is a large number of cases of typhoid fever in Pittsburg. For the period of the month ended December 14, 283 cases were reported. Ninety per cent. of the patients are said to be of those who drink water from the Allegheny River.

**New Hospitals.**—The Mount Pleasant Memorial Hospital, a four-story structure, with a capacity of 40 beds, has recently been opened.——The new hospital at Uniontown, erected at a cost of $100,000, has been formally opened. This institution will accommodate about 100 patients and has 14 private rooms.

**Not Violence, But Diphtheria.**—A 15-year-old girl, of Philadelphia, died, December 15, at the Pennsylvania Training School for Feeble-Minded Children. An accusation by the father that the child had been violently treated led to an inquest by the coroner of Delaware County. A death certificate of heart disease had been issued. The coroner's jury, however, rendered a verdict of death from diphtheria. The board of managers of the school will investigate the case.

### Philadelphia.

**Bequests.**—By the will of the late Salena Walker, the Jewish Hospital Association and the Jewish Maternity each received a a bequest of $8,000.

**Degrees Conferred.**—On December 10 the University of Pennsylvania conferred the degree of doctor of medicine on eleven students who had finished their course ahead of time.

**Phipps in Philadelphia.**—Henry Phipps, the philanthropist, visited Philadelphia, December 14, and, in company with the director, Dr. Lawrence F. Flick, inspected the temporary quarters of the Phipps Institute of Tuberculosis.

**New Laboratory Soon Ready.**—The new medical laboratory of the University of Pennsylvania, costing about $500,000, is expected to be ready for use next month. The building, begun about two years ago, has been delayed by several strikes of workmen.

**Deaths of the Week.**—The deaths in Philadelphia from all causes within the week numbered 579, an increase of 83 over the last week and an increase of 44 over the corresponding period of last year. The increase is believed to be largely due to the cold weather.

**Will Give Portrait.**—The former resident physicians of the Pennsylvania Hospital are having prepared an oil painting of the late Dr. Thomas G. Morton, which is soon to be hung in that institution. The committee in charge of the portrait consists of Drs. T. Hollingsworth Andrews, James C. Wilson and Frank Woodbury.

**Physician Loses Feet.**—Dr. George I. MacLeod of Ardmore, on December 16, in attempting to board a train for Philadelphia, slipped and fell beneath the moving train, and had both legs crushed. Amputation of both feet was necessitated. The patient is in good condition. Dr. McLeod is a member of the staff of the Bryn Mawr Hospital.

**Wyman Lectures.**—On the invitation of the H. A. Hare (Undergraduate) Medical Society, Surgeon-General Walter Wyman, of the U. S. P. H. and M.-H. Service, on December 16, addressed the students of the Jefferson Medical College on "Advantages Offered by the Public Health and Marine-Hospital Service of the United States to Recent Graduates in Medicine."

**More Medical Inspectors.**—Councils' subcommittee on finance has recommended an increased number of medical inspectors. According to the plan there are to be 50 salaried inspectors, assisted by 20 nurses, who are to do the work now done by 90 district physicians, medical inspectors and vaccine physicians. The new plan will simplify the work and will enable a daily inspection of schools to be carried out. The salaries of the inspectors are to be $1,200 a year, and that of the nurses $720 a year.

**Smallpox.**—For the week ended December 19 there were 90 new cases of smallpox and 22 deaths, the latter being more than for any like period within two years. Dr. Martin, director of the Department of Health and Charities, has sent the following letter to the physicians of the city, dated December 19:

> The conditions in Philadelphia are such as to threaten a grave epidemic of smallpox. Can you help in the preventive work by urging on your patients and all members of their households immediate vaccination of all unvaccinated persons, of all children over 12 who have been vaccinated successfully in infancy, of all adults who have not been vaccinated successfully within the last five years.

## GENERAL.

**Echinacea.**—According to L. E. Sayer, dean of the School of Pharmacy of the University of Kansas, writing in *The Journal of the Kansas Medical Society*, there is such a large and increasing demand for *Echinacea angustifolia* (the common "black Susan" or "niggerhead" of the western roadside and field corner) that there is danger of the supply for medicinal use being exhausted. The Bureau of Plant Industry of the

Department of Agriculture will take steps next season for the cultivation of the plant.

**American Congress on Tuberculosis.**—The Council of the Indiana State Medical Association, at its meeting in Indianapolis, December 17, adopted the following resolutions:

*Resolved*, That the Council of the Indiana State Medical Association, representing the medical profession of Indiana, believing that the so-called American Congress on Tuberculosis, organized by Clark Bell, Esq., of New York is not a body which is representative of the medical profession or of the best scientific thought of this country, deems it inadvisable and inexpedient for the Indiana State Medical Association to be represented in said Congress, and that we advise our President to notify Mr. Bell that he declines to appoint delegates to it.

*Resolved*, That the Secretary of the Council be instructed to furnish a copy of this resolution to the medical press, to Hon. John Hay, Secretary of State at Washington, who has been specially importuned to lend official aid and support to the movement.

**Physicians Wanted for Philippine Service.**—The United States Civil Service Commission announces that on Jan. 27-28, 1904, an examination will be held at 183 cities throughout the United States to secure physicians for the Philippine Service at salaries ranging from $1,200 to $1,800 per annum. At least one year's experience in hospital work or in the Philippine Islands as assistant surgeon in the United States Army, is prerequisite. The age limit is 20 to 40 years. This examination is open to all citizens of the United States who comply with the requirements. The Philippine Service is classified, and the law contemplates promotions on the basis of merit from the lowest to the highest positions. The climate is good and nearly all of the employes are in excellent health. For circulars, giving cost of living, duties, places of examination, etc., address the commission at Washington, D. C.

**St. Louis Exposition—The Congress of Arts and Science.**—A congress of scientific men to be called The Congress of Arts and Science is to be held in St. Louis, Sept. 19 to 25, 1904. This congress is supposed to cover all the sciences, classified into twenty-five departments, each department including several divisions. It was decided to invite a foreign representative of each subdivision to be present and take part. During the summer a committee was in Europe to personally extend the invitations. As a result we understand that about one hundred and twenty distinguished foreigners have accepted. Among these are M. Henri Becquerel, Paris (Physics of the Electron), J. H. van't Hoff, Berlin (Physical Chemistry), Albrecht Kossel, Heidelberg (Physiological Chemistry), Wilhelm Waldeyer, Berlin (Human Anatomy), Theodor W. Engelmann, Berlin (Physiology), Wilhelm Erb, Heidelberg (Neurology), Felix Marchand, Leipzig (Pathology), G. Clifford Allbutt, Cambridge (Internal Medicine), Professor Richelot, Paris (Gynecology), Sir Felix Semon, London (Otology and Laryngology), Sir Lauder Brunton, London (Therapeutics), Major F. W. Ross, Liverpool (Tropical Medicine) and Theodor Escherisch, Vienna (Pediatrics). Each of these, we understand, will be given an honorarium. As the program shows, Monday and Tuesday will be devoted to sessions of the larger divisions, and then the congress will break up into sections. These will be so arranged that, although some fifteen will be in session at once, or thirty in the morning and afternoon of each day, the sections of a department or of related departments will be arranged in series during the last four days in such manner that nearly everybody will be able to attend the sections up to the number of twelve in which any given individual might be supposed to be interested.

**Health Officers' School.**—A school for Indiana's health officers was held in Indianapolis, December 16-17, under the auspices of the State Board of Health. Under the Health Law of Indiana the State Board of Health is supreme and has power at any time to summon health officers in conference on hygiene and all subjects pertaining to the public health. The expenses of the officers are paid by their respective boards, but no per diem is allowed, as the officers are paid so much per capita per annum for each inhabitant of his jurisdiction. The school was called to order at 9 a. m. December 16 by Dr. W. N. Wishard, president of the State Board of Health. The first paper was given by County Health Officer A. S. Tilford on "The Importance and Usefulness of Vital Statistics." This valuable paper drew forth many questions and considerable discussion. There followed a lesson by Dr. J. N. Hurty, secretary of the board, entitled "Instructions for Collection of Vital Statistics; Instructions in Quarantine, and in the General Duties of Town Health Officers." A special "Book of Instructions to County, City and Town Health Officers" was recently issued by the State Board of Health, and this book was for the first time distributed among those present, about 200 in number. Health boards in Indiana have extraordinary powers, for the Supreme Court has decided that "boards of health are empowered to do whatever is reasonable for the preservation of the public health and the suppression of epidemics." All health officers are empowered and commanded on their own judgment to establish quarantine, employ physicians, purchase supplies, destroy infected articles, establish pesthouses, etc. The State Board of Health is empowered to take charge of any city, town, county or locality wherein the health laws are not being enforced. All of these facts in regard to the duties and powers of health officers, were carefully set forth and explained by the lecturer.

Two lessons in hygiene were given by Prof. Severance Burrage, professor of hygiene in Purdue University. His first subject was "School Sanitation and the Necessity of Medical Inspection of School Children," and his second, "The Town Milk and General Food Supply." Ex-Attorney-General William L. Taylor gave a lucid and comprehensive exposition of the present health and medical laws of Indiana, and made suggestions as to the legislation on those subjects that are still needed. Mr. Taylor was selected for this work because of his peculiar fitness, he having written the greater part of the health and medical laws of the state, while attorney-general, and having done good work in securing their passage. Surgeon-General Sternberg was one of the teachers, and his first lesson was given under the title of "Prevention of Infectious Diseases." In giving this lesson General Sternberg went carefully into the technical details, with which the health officer should be thoroughly acquainted. Dr. Frank Allport of Chicago gave a lesson entitled "Examination of School Children's Eyes and Ears." Dr. Allport dwelt fully on the importance of the subject and gave a clinic, examining the eyes of children before the assembled audience, to illustrate what a simple matter it was for teachers to be able to discover whether or not sight and hearing in their pupils were normal. Dr. Allport's address is spoken of as one of the most important given during the school, being exceedingly practical, and it certainly will bear fruit in Indiana, as the state board has already decided to order the examination of school children's eyes and ears by the teachers, and to use the methods advocated by Dr. Allport.

Dr. C. O. Probst, secretary of the Ohio State Board of Health, gave a lecture entitled, "The Combat Against Tuberculosis." This lesson was confined largely to telling in detail the part which health officers should take in the great work of the prophylaxis of tuberculosis. Prof. Stanley Coulter, professor of botany, Purdue University, gave a lesson entitled, "Influence of Plant Life on the Public Health." This was a very brilliant address by one of the foremost botanists of the United States. He made plain how the earth would speedily become uninhabitable if plant life was not present to unceasingly purify the atmosphere, to conserve humidity, furnish food, etc. Professor Coulter will prepare a pamphlet on this subject which will be circulated by the Indiana State Board of Health.

Surgeon-General Wyman, who had promised to be present, could not attend, being kept away by the pressing duties of his office. Probably the most notable lesson was given by Prof. F. G. Novy, M.D., of the University of Michigan. His title was "The Protozoal Diseases." It would seem impossible for any one except Professor Novy to give even an abstract of the matter which he presented to the school. The authorities of the Medical College of Indiana prevailed on Dr. Novy to remain over and address the students of their institution the next day.

To the evening session of the school, on December 16, the public was invited. The auditorium, seating 1,200, was full to the doors. The lectures of the evening were given by Dr. David W. Dennis, professor of biology in Earlham College, and by Surgeon-General Sternberg. Both lectures were illustrated with lantern. The first was entitled "The Germ Theory of Disease," and the second "Infection and Immunity."

The medical profession and other citizens of Indianapolis and of the state extended to General Sternberg, Dr. Novy, Dr. Allport and Dr. Probst a dinner on the evening of December 17, at which Governor Durbin acted as toastmaster and Mayor Holtzman extended welcome to the visitors.

## FOREIGN.

**The Deadly Celluloid Collar.**—The *Progrès Médical* of Paris states that a French practitioner, Dr. Runel, succumbed in twenty-four hours to the effects of burns received from the igniting of a celluloid collar while he was lighting a cigar.

**Medal for Ehrlich.**—Professor Ehrlich, the director of the Institute for Experimental Therapeutics at Frankfurt a. M., has been presented with the gold medal "for arts and sciences." A similar medal was bestowed on Virchow on his eightieth birthday.

**French Medicine at the St. Louis Exposition.**—Dr. Marcel Baudouin, editor of the *Gazette Méd. de Paris*, has been appointed chairman of the committee that will represent French medicine at the approaching exposition. He is making great efforts to have the profession in his country well represented, not only by surgical appliances, etc., but also by a large contingent of visiting French physicians.

**Russian Tuberculosis Congress.**—The national medical association of Russia appointed a permanent committee last year to study means of combating the spread of tuberculosis. The committee has now appealed for a general conference on the subject, and has been entrusted with the task of organizing an All-Russian Tuberculosis Congress to convene in connection with the next national medical congress.

**Substitution of Infants.**—A Polish noble family has recently been before the courts on account of the accused substitution by the wife of an infant heir. The matter was referred by the court to the expert testimony of two physicians and an artist, who were required to testify as to the inheritance by the infant of the physical characteristics of the mother to sustain her claims of maternity. The experts discovered likeness in the ears, root of the nose and color of the eyes, and noted a striking resemblance between the infant's chin and the chins of the countess' daughters, although differing from her own chin. On the ground of this testimony the mother's claim was allowed and the suit dismissed. The trio of Berlin experts included Dr. Strassmann and Vogel, the portrait painter.

**Celebration of Koch's Sixtieth Birthday.**—Robert Koch is not expected home from British South Africa until March, but his friends seized the occasion of his sixtieth birthday, December 11, to honor him. A portrait bust installed in the Institute for Infectious Diseases, will be unveiled on his return, and a museum has been organized there to represent the evolution of bacteriology. A *Festschrift* with contributions from his immediate pupils is now in press, and all the German medical journals devoted a special number to his honor. The *Deutsche medicinische Wochenschrift* states that the preparations for the celebration have been made without publicity as the sixtieth birthday of even such a man as Koch scarcely justifies a public celebration, but adds the mysterious hint that "it may be allowable later to speak of the primary inducement for this more extensive celebration of the birthday." This weekly has always been the medium through which Koch has published his communications, and it gives a list of 22 since his criticism of Naegeli's work in 1877.

### PARIS LETTER.

#### Protection of Children from Tuberculosis.

The establishment of sanatoria for consumptives in France has not taken place without some discussion as to whether it be the best means of stamping out tuberculosis. Professor Grancher considers that prevention is of more importance, and advocates using all methods which tend to protect children from this disease. He considers the English method far preferable, the latter consisting in ameliorating the hygienic conditions of workmen in furnishing more light and air, and better food. A society has been formed under his inspiration, which aims to protect children from tuberculosis. Children of the poor whose parents are affected with consumption will be sent into the country, after having been examined to see if there is any apparent trace of consumption. It is considered best not to send tuberculous children among families residing in the country who would not know how to protect themselves. The family of the child will be asked to contribute in some slight degree to the maintenance of the child. The sum given for this purpose may be only two or five francs per month, but it will prevent pauperizing the family. Children whose ages range from 5 to 13 will be chosen.

## Correspondence.

### Trades Unionism Among Asylum Employes.

Dunning, Ill., Dec. 23, 1903.

*To the Editor:*—I presume it is well known, from the notices that have appeared in the daily press of Chicago, that there is established at Dunning a union of attendants and nurses, organized on the same basis as regular labor organizations and affiliated with the Chicago Federation of Labor. It is also a well-known fact that the attendants and nurses, as well as other employes at Dunning, are under the protection of civil service, the protection being so strong as to absolutely prevent me from either hiring or discharging an employe.

The attendants have made a demand for a uniform scale of wages, much higher than the present one, and in spite of the fact that the average pay allowed to attendants and nurses at Dunning is now somewhat higher than the average in the state institutions in Illinois, and in fact higher than the average for the United States. I am not opposed to an increase in the wages, and quite agree with Mr. Sullivan, the attorney for the union, that for a better salary we would be able to secure a better grade of attendants. I do, however, very decidedly disagree with the demands of the union on the question of the uniformity of wages, and this is the question which I desire to place before the medical profession through the medium of The Journal. The points which I desire to establish and which in my opinion are absolutely essential for the maintenance of discipline in an institution of this kind, as well as for the obtaining of the highest possible efficiency from the attendants and nurses, are the following:

1. While I have absolutely no objection to an association of attendants and nurses and can easily see how such an association could be of immense service to its members as well as to the institution, particularly to the patients, I can not see the wisdom of having a regular labor union in a charitable institution. I maintain that if it is undesirable to have a union of firemen and policemen, it certainly is less desirable to have a union of attendants and nurses and there is much less just reason for its existence, especially when we consider that it exists in civil service protection.

2. I assert that the work is in no way uniform. The skillful nursing of the sick and the care of the demented, helpless and untidy patients surely deserves higher compensation than the watching of a few working patients out in the field, where about the only duty is to prevent the patients from escaping or overworking.

3. What is most important, the uniform scale of wages would undoubtedly decrease the efficiency of the great majority of attendants. Such is the opinion of over fifty superintendents of leading American institutions of a similar nature, and such has already been my experience. It is proper to consider an expectation of higher pay and higher position a natural stimulus for work. If the question of pay is absolutely settled and there is no chance for any better, and on the other hand no danger of any worse, why should anyone care to improve in his work and to receive any training? The only thing desired under such circumstances is work enough to prevent discharge. You will agree with me that under such circumstances the work in an institution of this kind certainly can not be elevated nor the care of patients be bettered.

4. The discipline of the place under such circumstances can be easily imagined. As it is, the civil service rules limit the power of the superintendent. If, aside from that, he has no right to make some distinction in salary for better services rendered, the superintendent will become a mere figurehead.

To illustrate the situation in state institutions of Illinois, I will cite the system existing at the Illinois Eastern Hospital for the Insane, which was put in operation by Dr. Dewey and which has been continued practically the same ever since. The male attendants are placed in eight different grades, from $25 up to $40 per month. The average pay for male attendants, including several who have received training equal to that of a trained nurse, is $28,87. At Dunning, where none of the older employes had any training whatever, the average is now $30.60 per month. The female attendants at Kankakee are placed in eleven different grades, starting at $17 per month up to $35 per month, and practically every position paid better than $22 per month is held by a nurse who has received training and diploma from a training school. That makes an average of $20.19 per month for each female attendant. The average at Dunning is $28.80 per month. My schedule, as presented in the estimate, provides for an average for attendants of both sexes amounting to about $32.

In closing I wish to add that the training school has already been organized at Dunning and a course of training started, and while the interest taken in the classes and the result of the quizzes is extremely poor, the training will surely be of considerable benefit to the institution as well as to each attendant who takes interest in it. It is my object to give a sufficiently thorough course of training in the second year to be able to train our own nurses for the positions of head nurses and all superior positions.

I am certain, however, that with uniform scale of wages no such results can be expected and the institution will drift along way behind the times, simply because of lack of efficiency in the force of attendants and nurses.

V. H. PODSTATA, M.D.,
*General Superintendent Cook County Institutions.*

### "Congresses on Tuberculosis."

NEW YORK CITY, Dec. 14, 1903.

*To the Editor:*— . . . The American Congress on Tuberculosis was founded by the Medicolegal Society in 1900, and has held its annual meetings and elected its officers each year since that time at the City of New York. This congress is not, nor was it ever, for a moment, considered as a strictly medical organization. It was composed of legal and medical men, scientists, and publicists, because the medical profession, as such, in this country failed to organize such a congress, although all the leading powers of christendom had moved and acted. Sweden, Italy, Germany, France and England had done so.

The Medicolegal Society, because of the inaction of the medical profession of America, considered that if consumption was a communicable disease, as their medical members believed and advised, that the highest questions in forensic medicine ever submitted to the two great professions of law and medicine were:

(1) "What legislation could be adopted by Congress or by the legislatures of the American states that could possibly arrest its ravages, prevent its spread, and reduce the mortality among our people that had reached such alarming and amazing proportions?" as the first question, and,

(2) "How could the masses of our people be educated up to be willing to vote for and aid in securing such legislation as a commencement; and to form and place on solid foundations a public opinion in America, among all classes of our people, that could be relied on to enforce such laws, after they were enacted?"

The Medicolegal Society then considered that, because of the exigencies of the questions, the supineness and inactivity of the medical profession in our country to grapple with the subject, it became an urgent, an immediate and the paramount duty of lawyers, jurists, medical men, scientists, legislators and the general public in such a struggle to inquire into all sides and phases of this question. . . .

If the medical profession had in 1900 organized a national movement or congress on tuberculosis, as that profession had done in almost all continental countries, it would have been a creditable work, and . . . it is only fair to say that the present congress would not have been organized.

If the medical professsion should to-day, through its great national organizations, decide to call and hold a medical congress on tuberculosis, either on broad or restricted lines of labor, as to the medical questions involved, or on larger and broader lines, it would be a creditable work, and every member of this organization would aid it in every way. . . .

As this Congress is not a medical congress, *per se*, and as men of all professions are on its list of officers and members, its faults ought not to, nor could they ever, be laid at the door of the medical profession.

(Signed) CLARK BELL,
*Chairman Committee on Organization,*
*International Congress on Tuberculosis.*

[Because of lack of space for them, we have omitted from Mr. Bell's very long letter a number of paragraphs, some of which are a repetition of a considerable part of the letter from the Government (which has already appeared in THE JOURNAL, December 12). We print the above portions, which are pertinent to the matter discussed. Mr. Bell discusses the Lewis-Brown Congress, which discussion we omit, as we do not wish to enter into the controversy between the two congresses. We note that Mr. Bell relieves the medical profession from responsibility of any sort for the congress, and it is well for physicians to know this fact.—ED.]

### The First Hip-Joint Amputation in America.

WINFIELD, ARK., Dec. 18, 1903.

*To the Editor:*—In THE JOURNAL, December 5, page 1379, in his address on "The Progress of American Medicine," etc., Dr. W. W. Grant of Denver, speaking of great surgical operations of the past, gives the late Dr. V. Matt the credit of the first "hip-joint amputation" in America, in 1824. This is not correct, as we find, on pages 4 and 5 of Dr. P. S. Townsend's preface to volume III of Velpeau's Operative Surgery, 1847, that he gives Dr. Walter Brasher of Bardstown, Ky., the credit of the first hip-joint amputation, which was performed in August, 1806. In 1891, this question was discussed by Dr. Will F. Arnold of the U. S. N. and myself, and our communications were published in the *Medical Record.* In one number of that journal I had a copy of Dr. Brasher's letter to Dr. Townsend published.

Dr. Wyeth of New York, in the third edition of his "Text-Book of Surgery," page 218, gives Dr. Brasher credit for the first operation of the kind in America, and cites Dr. Yandell of Kentucky as authority. Dr. Eve, in his "Surgical Cases," gives the proper author of the operation, as Townsend did.

I write this simply to place the credit on the right man, and on the right date. CHEVES BEVILL.

## Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

### DIFFERENTIAL DIAGNOSIS OF TYPHOID FROM MEASLES AND RHEUMATISM.

RIDGELAND, WIS., Dec. 25, 1903.

*To the Editor:*—CASE 1.—A patient, 4½ years old, came down with a high fever and aches and pains all over her body. She had been exposed to measles. By the end of the first week her temperature was 104. At this time also there was pain in her abdomen and it was also tympanitic and covered with roseola. Her bowel movements were like pea soup and there was some blood. Spleen was enlarged. She gradually grew better until the end of the second week, when her temperature was 100. During the second week there was also bronchitis. Beginning with the third week there was a rise of temperature and the second day she broke out with measles. She then rapidly recovered. I diagnosed the case typhoid fever. Was I right or was it measles? She had two good sweats at the first.

CASE 2.—A woman, 38 years old, after three days of being unwell and having a very sore throat, came down with pain and swelling in her joints, mostly in wrists and elbows, ankles and knees; there was much vomiting and there was enlargement of spleen; temperature was from 100 to 101; there also was a marked roseola on abdomen. Tongue covered with white coating, breath bad. She was constipated, but there was no sweating. I diagnosed the case rheumatic fever. I opened the bowels with colchicin, and just at this time another physician was called, who pronounced it typhoid fever. Under typhoid treatment her temperature would run up to 101, while under rheumatism treatment her temperature would remain at 99.6. She finally recovered with stiffness in the joints. Who was right?

C. C.

ANSWER.—CASE 1.—There are two or three possibilities in this case. (A) The patient had typhoid which was followed by measles. The early fever, abdominal symptoms, roseolæ, stools, splenic tumor, hemorrhage from the bowels, etc., speak as strongly for typhoid as any symptoms could, in the absence of a Widal test. (B) In some cases, in young children at this age, the typhoid spots, usually small, few and confined to the trunk, may come out very diffusely, abundantly and with unusual distribution, as over the face, arms, hands, etc. These cases may resemble measles, and careful observers have recorded such cases, although relatively infrequent. We have seen typhoid in which the diagnosis of measles was made. The Widal test, finding the typhoid bacilli in the blood and urine, etc., removed all doubt of the diagnosis. Your case was, then, in all probability typhoid with, as an equal choice, measles as a sequel or an unusually abundant typhoid eruption.

(c) It is barely possible that the prodromal fever of two weeks was part of the measles incubation. This seems, however, by far the least probable explanation.

Case 2.—Your second case seems to have been rheumatic. There was an initial sore throat, then joint involvement, vomiting (unusual in typhoid), splenic tumor, which is not infrequent in acute rheumatism, a lower fever than usually occurs in typhoid, and, above all, the success of the almost specific antirheumatic treatment.

### PARATYPHOID SYMPTOMS AND PATHOLOGY.

Nashville, Tenn., Dec. 14, 1903.

*To the Editor:*—Please state in The Journal the postmortem findings of the disease produced by the paratyphoid bacillus, also the symptoms and in what respect they differ from typhoid.

W. L.

Answer.—The symptoms of paratyphoid fever are practically indistinguishable from those of typhoid. Usually the course is similar to that of a rather mild typhoid, and the mortality seems to be low. Bowel disturbance is usually less marked, but may be present, and hemorrhages occasionally occur. Rose spots, enlarged spleen and dicrotic pulse are present to about the same extent as in typhoid. The diagnosis is to be made by the failure of the Widal in dilutions above 1-20, which is suggestive, and the isolation of the paratyphoid bacillus from the blood, which is the only positive method. In the few recorded autopsies the disease differs from typhoid in absence of swelling of the Peyer's patches and lymphatic apparatus of the intestine, although in a few superficial intestinal ulcerations have been found. The anatomic picture is rather that of a non-specific septicemia.

### FIRST USE OF CLINICAL THERMOMETER.

Jet, Okla., Dec. 26, 1903.

*To the Editor:*—Will you please inform me through your columns when and by whom the thermometer was first used for the purpose *of determining the temperature of the body?* L. J. Moorman.

Answer.—The medical use of the thermometer apparently dates back almost to its invention. Park refers to Santoro or Sanctorius (1561-1635), professor at Padua, who taught how to study the temperature by means of a species of thermometer, probably of his own invention. As Galileo (1574-1642) is credited with the invention of the spirit thermometer, it will be seen that the medical idea of an instrument of precision for determining the temperature dates back fully to his time. Mercuric thermometers were not invented until a later date. The clinical thermometer as we now use it is, of course, a modern invention.

### PHARMACOLOGY TEXT-BOOKS.

Lamont, Fla., Dec. 21, 1903.

*To the Editor:*—Will you kindly inform me through The Journal which is the best book printed in either English, French or German on the subject of Pharmacology, and where I can obtain it?

A. E. Conter.

Answer.—There is no better English work than Sollmann's. Cushny's is also good. Order from W. T. Keener & Co., Chicago, or L. S. Mathews & Co., St. Louis, or have your nearest book dealer do so.

### THE SUBMERGED TONSIL.

Fort Yellowstone, Wyo., Dec. 14, 1903.

*To the Editor:*—Will you please inform me what is meant by the phrase "Submerged Tonsils"? One of my patients was under the care of an eminent nose and throat specialist, who said she had submerged tonsils.

J. V. White,
Contract Surgeon, U. S. A.

Answer.—The term "submerged tonsil" has been used by some laryngologists to describe the gland when it is small, flat and elongated and partially covered by the faucial pillars to which it is sometimes adherent. The adjective has not received recognition.

## Marriages.

L. Edwin Young, M.D., Massack, Ky., to Miss Mary Gholson, December 25.

John R. Wilson, M.D., to Miss May Scott, both of Prairie Creek, Ind., December 8.

Grant G. Brown, M.D., to Miss Lutie Bowen, both of Atchison, Kan., December 23.

Lorin F. Rich, M.D., Rexburg, Idaho, to Miss Ruth Blair of Salt Lake City, December 23.

J. E. Wilson, M.D., Terrell, Texas, to Miss Johnnie Mae Blain of Dallas, Texas, December 9.

Robert T. Legge, M.D., to Miss Irene Farjeon, both of St. Cloud, Cal., at San Francisco, November 26.

Herbert H. McCampbell, M.D., Knoxville, Tenn., to Miss Edna White of Springfield, Tenn., December 25.

Edward Livingston Trudeau, Jr., M.D., Saranac Lake, N. Y., to Miss Hazel Martyn of Chicago, December 28.

George A. Carr, M.D., Durham, N. C., to Miss Bettie May Hunt of Oxford, N. C., at Durham, December 14.

Edward J. Ruddock, M.D., Guerneville, Cal., to Miss Eva L. Stanford of Alameda, Cal., at Santa Rosa, Cal., December 16.

Emmett P. North, M.D., St. Louis, Mo., to Miss Maud Isbell, daughter of Dr. John Isbell of Washington, Mo., December 2.

James Robb Church, M.D., U. S. Army, Fort Trumbull, Conn., to Miss Beulah Maude Boss of New London, Conn., December 9.

Arthur Marston Stimson, M.D., assistant surgeon U. S. P. H. and M.-H. Service, to Miss Sarah A. Boyd of Tiverton, R. I., at New Orleans, December 9.

## Deaths.

**Harry C. Hume, M.D.** Kentucky School of Medicine, Louisville, 1892, of Paragould, Ark., a member of the American Medical Association, Arkansas Medical Society, and Greene County Medical Society, died at his old home, New Harmony, Ind., Dec. 17, after an illness of more than two years from consumption, aged 30.

**William Scarborough Braxton Henry, M.D.** Jefferson Medical College, Philadelphia, surgeon of the Fortieth Virginia Infantry, C. S. A., in the Civil War, some-time physician to the Omaha and Winnebago agencies in Nebraska, died in Falls Church, Va., December 12, from heart disease, after a brief illness, aged 76.

**Corydon Pirnie Cronk, M.D.** Columbian University, Washington, D. C., 1888, of Norfolk, Va., for ten years in charge of the Baltimore station of the U. S. Weather Bureau and for the last six years stationed at Cape Henry, Va., died at the City Hospital, Baltimore, December 13, from Addison's disease, aged about 45.

**Francis W. Higgins, M.D.** New York University, 1881, a member of the American Medical Association, vice-president of the New York State Medical Association, and president of the Third District branch of that organization, died suddenly in his office at Cortland, N. Y., from heart disease, December 18, aged 46.

**Francis A. Kitchen, M.D.** University of Pennsylvania, Philadelphia, 1856, formerly surgeon of volunteers in the Civil War; medical director of the Department of Ohio, G. A. R., and city physician of Toledo, died at his home in that city, December 18, from pneumonia, after an illness of four weeks, aged 83.

**Samuel B. Howell, M.D.,** of Philadelphia, some-time secretary of the Philadelphia College of Physicians, one of the founders of the Medico-Chirurgical College, and dean of the Auxiliary Department of Medicine of the University of Pennsylvania, died at Atlantic City, N. J., December 12.

**William H. A. Young, M.D.** Eclectic Medical College of the City of New York, 1872, was shot through the heart and killed by the accidental discharge of a rifle which he was placing in his carriage, at his home in Springfield, Mass., December 26.

**John W. Hamilton, M.D.** Bennett College of Eclectic Medicine and Surgery, Chicago, 1870, who had suffered for several months from insomnia, committed suicide by taking cyanid of potassium, at his rooms in San Francisco, December 14, aged 66.

**George E. Blackman, M.D.** State University of Iowa, College of Homeopathic Medicine, Iowa City, 1886, of Vernon, Texas, died recently from consumption, in the mountains of Colorado, where he had gone for his health.

**J. Reynolds Tillinghast, Jr., M.D.** College of Physicians and Surgeons, New York, 1895, of Saranac Lake, N. Y., died at Colorado Springs, Colo., December 13, from consumption, after a long illness.

**Charles L. Tindall, M.D.** Hahnemann Medical College, Philadelphia, 1888, died at his home in Philadelphia, December 15, from tuberculous laryngitis, after an illness of several months.

**Charles A. Moran, M.D.** Southern Medical College, Atlanta, Ga., 1885, of Atlanta, died at St. Joseph's Infirmary in that city, December 20, from anemia, after a long illness, aged 45.

**Charles H. Bushong, M.D.** College of Physicians and Surgeons, 1885, died December 20, from consumption, after an illness of two years, at his home in New York City, aged 47.

**William R. Harper, M.D.** American Medical College, St. Louis, 1889, died at his home in Mitchellville, Ill., December 7, from heart disease.

**Robert Garrett Dock, M.D.** Hahnemann Medical College, Philadelphia, 1894, died at his home in Germantown, Philadelphia, December 15.

**Brooks R. Hamilton, M.D.** College of Physicians and Surgeons, Keokuk, 1870, died at his home in Nauvoo, Ill., December 9, aged 66.

**Samuel Thomas, M.D.**, died at his home in Greenville, Ohio, December 17, from dysentery, after an illness of two weeks, aged 76.

**William M. Skeler, M.D.** University of Michigan, Ann Arbor, 1870, dropped dead at his home in Three Rivers, Mich., December 15.

**William S. Hopson, M.D.**, the oldest practitioner of Hopkinsville, Ky., died at his home in that place, December 18, aged 89.

**Jerome A. Anderson, M.D.** University of California, San Francisco, 1873, died at his home in San Francisco, December 26.

**Oscar F. Decker, M.D.** University of Buffalo, 1871, died at his home in Buffalo, N. Y., from apoplexy, December 11, aged 64.

**James R. D. Long, M.D.** University of Nashville, 1880, died suddenly at his home in Richardson, Texas, December 15.

**Samuel Sanford, M.D.**, 1849, died at his home in Lima, Ohio, December 17, after a long illness, aged 75.

**J. H. Pickett, M.D.**, died at his home in Ty Ty, Ga., December 15, from dropsy, after a long illness.

**Mathias Brand, Jr., M.D.** Chicago Medical College, 1886, died at his home in Chicago, November 21.

**J. L. Scott, M.D.**, died at his home in Denison, Texas, December 17, aged 84.

## Miscellany.

**Apropos of the Anti-Bath Doctor.**—The following ode, which appeared in the Chicago *Record-Herald* Dec. 22, 1903, was suggested by an eclectic physician's having preached against the custom of bathing.[1] Although this will not go down to future ages as an example of the finest poetry, it nevertheless contains enough point to be worthy of reproduction.

OWED TO DR. R——.

Who is the man who takes no bath?
Who claims to health it is the path?
Who in his system no germs hath?
A doctor!!!

Who says that soap destroys all fat?
Who's never in a "sitz bath" sat?
Who simply will not bathe—that's flat?
A doctor!!!

Who "sets aside claims excretory"?
Likewise all claims respiratory?
Who leaves it to perspiratory?
A doctor!!!

Who seems to emulate the tramp?
Who never gets his system damp?
Who if he bathes might have a cramp?
A doctor!!!

—M. G. SMITH.

## State Boards of Registration.

### COMING EXAMINATIONS.

Utah State Board of Medical Examiners, Salt Lake City, Jan. 4, 1904. Secretary, Dr. R. W. Fisher, Salt Lake City.

State Medical Examining Board of Washington, Tacoma, Jan. 5-6, 1904. Secretary, Dr. P. B. Swearingen, Tacoma.

Board of Medical Examiners of Arizona, Phoenix, Jan. 4-5, 1904. Secretary, Dr. Wm. Duffield, Phoenix.

State Medical Examining Board of North Dakota, Grand Forks, Jan. 5, 1904. Secretary, Dr. H. M. Wheeler, Grand Forks.

Board of Medical Examiners of the State of Oregon, Portland, Jan. 5, 1904. Secretary, Dr. Byron E. Miller, Portland.

Colorado State Board of Medical Examiners, 1723 Tremont St., Denver, Jan. 5 6, 1904. Secretary, Dr. S. D. Van Meter, Denver.

Minnesota State Board of Medical Examiners, State Capitol Bldg., St. Paul, Jan. 5-7, 1904. Secretary, Dr. C. J. Ringnell, Minneapolis.

State Board of Health of Rhode Island, State House, Providence, Jan. 7, 1904. Secretary, Dr. G. T. Swarts, Providence.

Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.

Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.

Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.

State Medical Board of Arkansas, Little Rock, Jan. 12, 1904. Secretary, J. P. Runyan, Little Rock.

Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.

Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

New York State Board of Regents, at New York, Albany, Syracuse and Buffalo, Jan. 26-29. Secretary, James Russell Parsons, State Capitol, Albany.

**Oklahoma Report.**—Dr. E. E. Cowdrick, secretary of the Oklahoma Medical Examining Board, reports the written examination held at Enid, November 10, as follows: Subjects, 9; questions, 77; percentage, 66 2/3; applicants, 18; passed, 5; failed, 13.

| Colleges. | Year Grad. | Per Cent. |
|---|---|---|
| Amer. Med. Missionary Coll., Chicago | 1902 | 86.5 |
| Cleveland Hom. Med. College | 1901 | 83.0 |
| Missouri Medical College | 1884 | 81.3 |
| University of Missouri | 1899 | 80.5 |
| Hospital Coll. of Med., Louisville | 1903 | 81.6 |

FAILED.

Those who failed were graduates of: Toledo (Ohio) Medical College, 1886; Central Coll. of P. and S., Indianapolis, 1903; Rush Med. Coll., Chicago, 1878; Miami (Ohio) Med. College, 1902; Coll. of P. and S., Baltimore, 1876; Univ. of Kentucky, 1903; Kansas City Med. Coll., 1903; Univ. of Louisville, 1897; Memphis Hosp. Med. Coll., 1892; Hosp. Coll. of Med., Louisville, 1898; Coll. of P. and S., Keokuk, Iowa, 1876; Barnes Med. Coll., St. Louis, 1897.

## The Public Service.

### Army Changes.

Memorandum of changes of stations and duties of medical officers for the two weeks ending Dec. 26, 1903:

Webb, W. D., Turnbull, Wilfrid, and Porter, Ralph S., asst.-surgeons, ordered to proceed to Washington, D. C., and report to the president of the examination board for examination to determine their fitness for advancement.

Peed, George P., and Thomason, H. D., asst.-surgeons, ordered to proceed to San Francisco and report to the president of the examining board for examination to determine their fitness for advancement.

Hartnett, E. H., asst.-surgeon, granted fourteen days' leave of absence to take effect Jan. 1, 1904, par. 8 S. O., 296, Dept. of the East.

Johnson, R. W., surgeon, ordered to proceed to St. Louis, for duty pertaining to the exhibit of the Medical Department of the Army at the Louisiana Purchase Exposition.

Carroll, James, asst.-surgeon, detailed to represent the Medical Department of the Army at the meeting of the Society of American Bacteriologists, to be held in Philadelphia, Dec. 29-30, 1903.

Usher, F. C. M., asst.-surgeon, granted leave of absence for one month.

Allen, J. H., asst.-surgeon, relieved from further duty in the Division of the Philippines and ordered to U. S. General Hospital, Presidio of San Francisco, for duty.

Chidester, W. C., asst.-surgeon, relieved from duty at U. S. General Hospital, Presidio of San Francisco, and ordered to Fort Lawton, Wash., for duty.

Mathews, Geo. W., asst.-surgeon, granted ten days' leave of absence from Dec. 24, 1903.

Williams, A. W., asst.-surgeon, granted leave of absence for seven days from Dec. 24, 1903, with permission to apply for extension of twenty-three days.

Jean, Geo. W., asst.-surgeon, to proceed to Fort Greble, R. I., for temporary duty during absence on leave of Lieutenant Williams.

Ford, J. H., asst.-surgeon, relieved from duty at U. S. General Hospital, Washington Barracks, D. C., and ordered to Fort Reno, O. T.

Farr, C. W., asst.-surgeon, relieved from duty at Fort Reno, O. T., and ordered to proceed to Fort Mason, Cal., for duty.

Ekwurzel, G. M., asst.-surgeon, relieved from temporary duty at New Haven, Conn., and ordered to Fort Trumbull, Conn., for duty.

Church, J. R., asst.-surgeon, relieved from duty at Fort Trumbull, Conn., and ordered to Fort Brown, Texas, for duty.

Hartsock, F. M., asst.-surgeon, granted ten days' leave of absence.

Patterson, Edwin W., contract surgeon, has been relieved from further duty in the Division of the Philippines, and at the expiration of his three months' leave of absence will report for duty at Fort Washington, Md.

Baily, Howard H., contract surgeon, has been granted a month's leave from the Division of the Philippines, with permission to visit the United States and apply for an extension of two months.

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[1] See editorial in this issue.

Ekwurzel, Geo. M., asst.-surgeon, ordered to New Haven, Conn., for special duty during the absence of Asst.-surgeon DeWitt.

Hartsock, F. M., asst.-surgeon, arrived in New York City from Peking, China, via Siberia and England.

Ford, Joseph H., Dean, Elmer A., Steer, Samuel L., Truby, Willard F., and Williamson, L. P., asst.-surgeons, promoted captain and asst.-surgeons, U. S. Army, from date.

Crabtree, Geo. H., asst.-surgeon, granted fifteen days' leave of absence.

Van Dusen, Jas. W., asst.-surgeon, leave of absence on account of sickness extended one month.

Shockley, M. A. W., asst.-surgeon, leave of absence extended one month.

Hartsock, F. M., asst.-surgeon, ordered to report to president of examining board at Army Medical Museum Building, Washington, D. C., for examination for promotion.

Kendall, Wm. P., surgeon, ordered to proceed ( in returning to his station) to New York City to consult with the medical supply officer in that city in regard to purchase of instruments and equipment for the new operating room at the U. S. General Hospital, Presidio of San Francisco.

Sabin, Wallace E., contract surgeon, relieved from duty at Fort Lawton, Wash., and ordered to duty in the Philippinne Islands.

Snyder, Calvin D., Baltimore; Cowper, Harold W., Buffalo, N. Y.; Williams, Adrian D., Brooklyn, and Pasco, James B., San Francisco, contract surgeons, ordered to duty in the Philippine Islands.

Chambers, William H., contract dental surgeon, granted twelve days' leave of absence about December 22.

## Navy Changes.

Changes in the Medical Corps U. S. Navy for the week ending Dec. 19, 1903, no orders; for the week ending Dec. 26, 1903, as follows:

McClurg, W. A., medical inspector, ordered to the Bureau of Medicine and Surgery, Navy Department.

Johnson, M. K., surgeon, detached from the Naval Hospital, New York, and ordered to the *Tacoma*.

Schwerin, L. H., A. A. surgeon, detached from the *Southery* and ordered to the *Abarenda*.

Spratling, L. W., surgeon, detached from the *Hancock* and ordered to the navy yard, New York, for special temporary duty at the naval laboratory.

Carpenter, D. N., surgeon, detached from the Naval Hospital, Washington, D. C., and ordered to the *Dixie* for duty with the Panama Marine Brigade.

Spratling, L. W., surgeon, detached from the naval laboratory, Brooklyn, N. Y., and ordered to the *Dixie* for duty with the Panama Marine Brigade.

Angeny, G. L., P. A. surgeon, detached from the Naval Hospital, Philadelphia, Pa., and ordered to the *Dixie* for duty with the Panama Marine Brigade.

## Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service for the seven days ended Dec. 17, 1903.

Bailhache, Preston H., surgeon, detailed to represent the service at the Convention to Consider the Questions Involved in Mosquito Extermination, to be held in New York, December 16.

Irwin, Fairfax, surgeon, granted leave of absence for two days from December 24.

Brooks, S. D., surgeon, to rejoin station at Savannah, Ga.

White, J. H., surgeon, granted leave of absence for five days from December 17.

Carrington, P. M., surgeon, three days' leave of absence from Dec. 15, 1903, under paragraph 189 of the Regulations.

Guiteras, G. M., surgeon, granted leave of absence for three months from December 19.

Perry, J. C., P. A. surgeon, detailed to represent the service at the Convention to Consider the Questions Involved in Mosquito Extermination, to be held in New York Dec. 16.

Greene, J. B., P. A. surgeon, on being relieved at Cleveland by P. A. surgeon H. S. Mathewson, to proceed to Havana, Cuba, for duty in office of U. S. Consul-General, relieving Asst. Surgeon F. E. Trotter.

Mathewson, H. S., P. A. surgeon, relieved from duty at Detroit, Mich., and directed to proceed to Cleveland, Ohio, and assume command of the service at that port, relieving Surgeon J. B. Greene.

Von Ezdorf, R. H., P. A. surgeon, relieved from duty at Laredo, Texas, and directed to proceed to Washington, D. C., and report at Bureau.

Billings, W. C., asst.-surgeon, granted leave of absence for fourteen days from December 13.

Kerr, J. W., asst.-surgeon, to proceed to Ellis Island, New York, and report to Surgeon G. W. Stoner for duty.

Goldberger, Joseph, asst.-surgeon, to report to director of Hygienic Laboratory for duty.

Trotter, F. E., asst.-surgeon, on being relieved from duty at Havana, Cuba, by P. A. Surgeon J. B. Greene, to proceed to San Francisco and report to medical officer in command for duty and assignment to quarters.

Lloyd, B. J., asst.-surgeon, to proceed to Concord Cal., for special temporary duty.

Stimson, A. M., asst-surgeon, granted leave of absence for seven days from Dec. 8, 1903, under paragraph 191 of the Regulations.

Foster, A. D., asst.-surgeon, to proceed to Ellis Island, New York, and report to Surgeon G. W. Stoner for temporary duty.

Ballard, J. C., A. A. surgeon, granted leave of absence for five days from December 24.

Safford, M. V., A. A. surgeon, granted leave of absence for four days from Dec. 14, 1903, under paragraph 210 of the Regulations.

Stearns, H. H., A. A. surgeon, granted leave of absence for fourteen days from December 18.

Maguire, E. S., pharmacist, department letter of November 21, granting leave of absence for thirty days from Nov. 1, 1903, amended so as to read thirty days from December 1.

Gibson, R. H., pharmacist, granted leave of absence for eight days from December 24.

Ryder, L. W., pharmacist, department letter of December 9, granting leave of absence for fifteen days from Dec. 10, 1903, amended to read fifteen days from December 7.

### BOARD CONVENED.

Board convened to meet at Philadelphia, Pa., Dec. 17, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon Fairfax Irwin, chairman; Asst.-Surgeon W. A. Korn, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the two weeks ended Dec. 26, 1903:

### SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 29-Dec. 6, 1 case.

Illinois: Belleville, Dec. 5-12, 1 case; Chicago, Dec. 4-11, 1 case.

Louisiana: Baton Rouge, Nov. 28-Dec. 5, 1 case; New Orleans, Dec. 5-12, 2 cases, imported.

Massachusetts: Boston, Nov. 28-Dec. 5, 1 case; North Adams, Dec. 5-12, 1 case.

Michigan: Port Huron, Dec. 5-12, 1 case.

New Hampshire: Manchester, Dec. 5-12, 2 cases.

New Jersey: Camden, Dec. 5-12, 1 case.

New York: New York, Dec. 5-12, 2 cases.

Ohio: Cincinnati, Dec. 4-11, 4 cases; Dec. 5-12, Dayton, 1 case; Youngstown, 12 cases.

Pennsylvania: Nov. 30-Dec. 12, Altoona, 3 cases; Carbondale, 2 cases; Dec. 5-12, Erie, 3 cases; Johnstown, 3 cases, 2 deaths; McKeesport, 2 cases; Norristown, 1 case; Philadelphia, 67 cases, 16 deaths; Pittsburg, 25 cases, 8 deaths; Reading, Dec. 7-14, 1 case.

Tennessee: Memphis, Dec. 5-12, 20 cases.

Utah: Ogden, Nov. 1-30, 1 case.

Wisconsin: Milwaukee, Nov. 28-Dec. 12, 11 cases.

### SMALLPOX—FOREIGN.

Colombia: Barranquilla, Nov. 22-29, 2 deaths.

Brazil: Rio de Janeiro, Nov. 8-15, 36 cases, 35 deaths.

Ecuador: Guayaquil, Nov. 14-21, 1 death.

France: Lyon, Nov. 14-21, 1 death; Paris, Nov. 21-28, 7 deaths; Rouen, Nov. 1-30, 3 deaths.

Great Britain: Glasgow, Nov. 27-Dec. 5, 20 cases, 3 deaths; London, Nov. 14-28, 10 cases; Nov. 21-28, Manchester, 4 cases; Newcastle-on-Tyne, 1 case, 1 death; Nottingham, 2 cases.

Italy: Catania, Nov. 19-26, 4 deaths.

Mexico: Monclova, Dec. 10, 1 case.

Russia: Nov. 14-21, Moscow, 3 cases, 1 death; St, Petersburg, 59 cases; Warsaw, Oct. 31-Nov. 7, 1 death.

Turkey: Constantinople, Nov. 15-22, 6 deaths.

### YELLOW FEVER—UNITED STATES.

Texas: Laredo, Dec. 8-15, 7 cases, 2 deaths.

### YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Nov. 8-15, 3 cases, 1 death.

Ecuador: Guayaquil, Nov. 21-28, 1 death.

Mexico: Coatzacoalcos, Nov. 28-Dec. 5, 1 case.

### CHOLERA—FOREIGN.

India: Calcutta, Nov. 1-14, 50 deaths.

Japan: Nagasaki, Nov. 10-20, 33 cases, 18 deaths.

Straits Settlements: Singapore, Oct. 24-31, 35 deaths

### PLAGUE—FOREIGN.

Africa: Cape Colony, Oct. 17-24, 2 cases.

Brazil: Rio de Janeiro, Oct. 8-15, 40 cases, 17 deaths.

Egypt: Nov. 7-13, Alexandria, 1 death; Samallut, 1 case, 1 death.

India: Bombay, Nov. 3-17, 103 deaths; Calcutta, Nov. 1-14, 35 deaths; Karachi, Nov. 1-8, 7 cases, 7 deaths.

Japan: Yokohama, Oct. 31-Nov. 7, 1 case, 1 death.

### SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 6-13, 2 cases.

Illinois: Dec. 12-19, Belleville, 2 cases; Danville, 1 case.

Indiana: Evansville, Dec. 12-19, 3 cases.

Louisiana: New Orleans, Dec. 12-19, 3 cases, imported.

Maine: Biddeford, Dec. 12-19, 1 case.

Massachusetts: Haverhill, Dec. 12-19, 1 case.

Michigan: Dec. 12-19, Detroit, 2 cases; Port Huron, 2 cases; Flint, Dec. 6-19, 2 cases.

Mississippi: Natchez, Dec. 6-13, 26 cases.

New Hampshire: Manchester, Dec. 12-19, 1 case.

New Jersey: Camden, Dec. 12-19, 2 cases.

Ohio: Cincinnati, Dec. 11-18, 5 cases, 1 death.

Pennsylvania: Dec. 12-19, Erie, 5 cases, 1 death; McKeesport, 1 case; Philadelphia, 90 cases, 22 deaths; Pittsburg, 27 cases, 8 deaths, 2 imported; Johnstown, Dec. 14-21, 1 case, 1 death.

Tennessee: Memphis, Dec. 12-19, 17 cases.

Wisconsin: Milwaukee, Dec. 12-19, 2 cases.

### SMALLPOX—FOREIGN.

Austria-Hungary: Nov. 21-28, Prague, 7 cases; Trieste, 2 cases.

Belgium: Antwerp, Nov. 21-28, 2 cases, 2 deaths.

Brazil: Rio de Janeiro, Nov. 15-29, 99 cases, 59 deaths.

France: Paris, Nov. 28-Dec. 5, 12 cases.

Great Britain: Birmingham, Nov. 21-Dec. 5, 9 cases; Glasgow, Dec. 4-11, 26 cases, 2 deaths; Nov. 28-Dec. 5, London, 3 cases; Manchester, 1 death; Nottingham, 3 cases; Southampton, 1 case.

India: Bombay, Nov. 17-24, 1 death.

Italy: Catania, Nov. 26-Dec. 10, 6 deaths; Palermo, Noov. 14-21, 1 case.

Java: Batavia, Oct. 21-Nov. 7, 16 cases, 5 deaths.

Mexico: City of Mexico, Nov. 22-29, 1 case, 1 death.

Russia: Warsaw, Nov. 14-21, 6 deaths.

Spain: Corunna, Nov. 21-28, 1 death.

Turkey: Constantinople, Nov. 22-29, 7 deaths; Smyrna, Nov. 15-22, 14 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Cannel, Dec. 13, 1 case; Laredo, Dec. 15-18, 6 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Nov. 22-29, 1 case, 1 death.
Mexico: Vera Cruz, Nov. 28-Dec. 19, 22 cases, 7 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Oct. 31-Nov. 21, 49 deaths.
Straits Settlements: Singapore, Oct. 31-Nov. 7, 24 deaths.
Turkey in Asia: Nov. 16, 116 cases, 114 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Nov. 15-29, 85 cases, 43 deaths.
India: Bombay, Nov. 17-24, 55 deaths; Karachi, Nov. 8-22, 15 cases, 14 deaths.

# Medical Organization.

## Indiana.

Fulton County Medical Society.—At its first annual meeting held in Rochester, December 22, this society completed its organization and elected the following officers: Dr. John M. Ward, Kewanna, president; Dr. Aaron Johnston, Akron, vice-president; Dr. George E. Hoffman, Rochester, secretary; Dr. Charles J. Loring, Rochester, delegate, and Drs. Alphonso Armstrong, Kewanna, and Angus Brown and Milo O. King, Rochester, censors.

Meeting of the Council.—A meeting of the council of the Indiana State Medical Association was held at Indianapolis, December 17. Dr. Albert E. Bulson, Jr., secretary, writes us that the meeting was very successful. It was presided over by Dr. William N. Wishard, Indianapolis, president of the council. Eleven of the thirteen districts were represented, all except two of the councilors being present. In addition to the members of the council there were present Dr. Jonas Stewart, Anderson, and Dr. Frederick C. Heath, of Indianapolis, president and secretary respectively of the state association, and Dr. J. N. McCormack, Bowling Green, Ky., representing the American Medical Association. The reports of the councilors showed that in every district in Indiana, the work of reorganization is progressing rapidly, and that in ten of the districts complete reorganization has been effected. There is no county society in the state that has not shown some gain in membership since the adoption of the reorganization plan. In many counties the gain has been very marked. In several counties in which there has never been a medical organization there is now an active medical society. Taking everything into consideration the reports from the various councilors were very encouraging. Dr. Stewart asked the advice of the council relative to the appointment of delegates to the American Congress on Tuberculosis, which has been advertised to meet in St. Louis early in 1904. After some discussion the council passed a resolution[1] refusing to endorse the said congress. It was the unanimous opinion of the councilors that the Indiana medical profession should not only decline to take any part in this congress, but that it should in no uncertain tone, express its disapproval of the scheme.

## Iowa.

Marion County Medical Society.—This society was reorganized, December 12, with the following officers: President, Dr. Clarence P. Cook, Otley; vice-president, Dr. Gaylord Worstill, Knoxville; secretary, Dr. Corwin W. Cornell, Knoxville; treasurer, Dr. John V. Brann, Knoxville, and delegate, Dr. Benjamin F. Keables, Pella.

Winnebago County Medical Society.—At a business session of this society held at Lake Mills, December 9, the standard constitution and by-laws was adopted, and the reorganization perfected, the following officers being re-elected: Dr. Harry R. Irish, Forest City, president; Dr. Ferdinand A. Ch[illegible]sen, Lake Mills, vice-president; Dr. Luther Wall, Thom[illegible], secretary, and Dr. Gissle M. Lee, Thompson, treasurer.

Adams County Medical Society.—Physicians of the county met at Corning, December 15, and organized a society on the standard plan with the following officers: Dr. W. J. Wallahan, Nodaway, president; Dr. Homer L. Sweet, Mount Etna, vice-president; Dr. Charles H. Bryant, Corning, secretary and treasurer; Dr. Frances E. Potter, Corning, delegate, and Drs. James R. Thompson, Corning, W. F. Stotler, Corning, and William F. Amdor, Carbon, censors.

## Kentucky.

Dr. Arthur T. McCormack, Bowling Green, councilor for the Third District, reports the organization of the following county societies in the mountain section of his district. The organization of these counties gives an active organization in every county in the district except Edmonson, and the only two physicians in that county are members of the Warren County Medical Society. This organization trip covered a distance of about 275 miles, all off the railroad, and through part of the territory the only roads were along creek beds, requiring a week to make the trip.

Monroe County Medical Society.—On November 19 the banner [illegible] p was held in Tompkinsville, and resulted [illegible] of this society. The officers elected were [illegible] ncan, Tompkinsville, president; Dr. J. A. Flippin, Tompkinsville, vice-president, and Dr. Eugene E. Palmore, Strode, secretary-treasurer.

Cumberland County Medical Society.—On November 13 this society was organized in Burksville. The new constitution and by-laws were adopted, and a very strong organization was perfected. The following officers were elected: Dr. Henderson L. Cartwright, president; Dr. Archibald A. Streng, Burksville, vice-president, and Dr. W. Fayette Owsley, secretary-treasurer, all of Burksville.

Metcalfe County Medical Society.—The physicians of Metcalfe County met in Edmonton, November 17, and unanimously adopted the model constitution and by-laws. The society will meet on the third Saturday of each month in the summer and twice during the winter. The officers elected were Dr. John A. Yates, Edmonton, president; Dr. J. H. Owen, Randolph, vice-president; Dr. H. R. Van Zant, Edmonton, secretary-treasurer, and Dr. Zachariah G. Taylor, Knob Lick, delegate.

Allen County Medical Society.—On November 20 the physicians of Allen county met, and after a full discussion reorganized this society. The following officers will attest the health of the new society and promise to help give it a long and active life: Dr. Marcellus W. Whitney, Gainesville, president; Dr. William E. Meredith, Scottsville, vice-president; Dr. Andrew L. Wagoner, Scottsville, secretary-treasurer; Dr. William E. Meredith, Scottsville, delegate to state association, and Drs. John B. House, Scottsville, Hubert M. Meredith, Petroleum, and John E. Pace, Gainesville, censors.

The next aim in this district will be to secure on each county roster the name of every eligible physician within its boundaries. This has already been almost accomplished in several counties. The officers of the county societies authorize the councilor to challenge any other district in the United States to beat them to this goal.

## Maryland.

Cecil County Medical Society.—This society has decided to reorganize on the standard plan at its April meeting.

Anne Arundel County Medical Society.—At a meeting held in Annapolis, December 8, Dr. John Ruhrah, Baltimore, representing the Medical and Chirurgical Faculty of Maryland, delivered an address on "Medical Reorganization."

Kent County Medical Society.—A medical society has been organized in Kent County (Eastern Shore) with Dr. Thomas B. Wilson, Edesville, president; Dr. W. Frank Hines, Chestertown, vice-president, and Dr. H. G. Simpson, secretary-treasurer.

Talbot County Medical Society.—This society was organized at Easton (Eastern Shore), December 17, with the following officers: President, Dr. Julius A. Johnson, Easton; vice-president, Dr. James A. Stevens, Oxford; secretary and treasurer, Dr. Philip Lee, Travers, Easton, and censors, Drs. Samuel C. Trippe, Royal Oak, Charles H. Rose, Cordova, and Joseph S. Garrison, Easton. Dr. Thomas S. Cullen, Baltimore, representing the Medical and Chirurgical Faculty of Maryland, called the meeting to order, outlined the standard plan of organization and recited the essential advantages to be derived therefrom.

# Society Proceedings.

## AMERICAN ROENTGEN RAY SOCIETY.

*Fourth Annual Meeting, held in the University of Pennsylvania, Philadelphia, Dec. 9-10, 1903.*

The President, Prof. A. W. Goodspeed, in the Chair.

### New Officers.

The following were elected to officiate during the ensuing year: President, James B. Bullitt, Louisville, Ky.; vice-presidents, John B. Murphy, Chicago; G. R. Barnes, Buffalo, and Charles L. Leonard, Philadelphia; executive committee, W. W. Johnson, Rochester, N. Y.; Preston H. Hichey, Detroit, and

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[1] See page 43 of this issue.

Kennon Dunham, Cincinnati. The next place of meeting is to be decided on by the executive committee.

### Pathologic Changes in Tissue Under the Influence of the X-Ray.

Dr. W. S. Newcomet, Philadelphia, said that the changes consists of: 1, degeneration with vascularization of the epithelial pearls; 2, leucocytic infiltration of varying degree, which completes the destruction.

DISCUSSION.

Dr. W. A. Price, Cleveland, Ohio, suggested that possibly *x*-ray tubes possess a variety of powers of penetration, from high to low, and that these rays are active all the time, thus accounting for the various ways in which tissues are affected when subjected to the same technic.

Dr. Henry Hulst, Grand Rapids, Mich., believes that the reaction from the high or low tube is the same, and that the first effect of the *x*-ray is a stimulating one, followed by depression and finally dissolution. *X*-ray activity is dependent on the amount of rays absorbed by the tissue.

Dr. Gordon G. Burdick, Chicago, reduces all his tubes below the line where any rays are given off. He controls the degree of penetration of the ray by the speed with which he drives the cathode stream; this, in turn, is controlled by the electromotive force of the apparatus.

### The Results of the Roentgen Method in the Diagnosis of Renal Calculi.

Dr. Charles L. Leonard, Philadelphia, said the *x*-ray is valuable in differentiating disease of the kidney, especially calculus, as it is accurate, and renders exploratory operation unnecessary. There is less than three per cent. of error. The *x*-ray is a valuable means of diagnosis in cases of appendicitis or oöphoritis.

DISCUSSION.

Dr. James B. Bullitt, Louisville, Ky., cited a case in which the *x*-ray revealed a renal calculus which had been overlooked at the time of operation.

Dr. Henry Hulst, Grand Rapids, Mich., advised compression of the body so as to cut out the secondary rays by lessening the distance between the anode and the plate. Another method that is especially useful in large subjects is inflation of the colon with air.

### Two Cases of Severe X-Ray Necrosis, Presenting Some Unusual Features.

Dr. Clarence E. Skinner, New Haven, Conn., in a paper by this title, drew the following conclusions: 1. Patients who tan well are not immune to burns. 2. The physiologic action of the *x*-light is not confined to the stimulant or destructive influence on the tissues that already exists; it is capable of modifying more or less permanently the developmental functions that control cell growth. 3. The cessation of the pain when the necrotic tissue was shed, proves that this acts as an irritant by developing toxins that act on the peripheral nerve endings. 4. The direct electrical current promulgated healing, therefore galvanism may replace skin grafting. 5. The late appearance of new areas of necrosis may signify that the *x*-ray has a cumulative action. 6. No two cases of *x*-ray burn will react uniformly to the same palliative agent. 7. Patients should not be exposed to the *x*-ray with even a moderate degree of frequency through long periods of time, no matter how well they seem to bear them at first.

Dr. Skinner also reported a case of cervical adenitis treated with the *x*-ray in which there followed a marked growth of hair over those parts of the face and neck that had been exposed to the ray. Similar instances were reported by Drs. Allen, Pancoast, Girdwood, Bullitt and others.

### Skiagraphy of the Chest.

Dr. Henry Hulst, Grand Rapids, Mich., considers this a valuable aid in diagnosis, especially for pathologic detail. The subject must be at rest, and the exposure must be rapid, one second or less sufficing. To secure contrast, the plate may be sandwiched between calcium tungstate screens. The induction coil is preferable to the static machine. The tube must be able to keep its vacuum. The lowest tube that will do the work is the best for this rapid work.

### How to Obtain an Instantaneous Skiagraph of the Thorax.

Dr. Mihran A. Kassabian, Philadelphia, said that the coil is the most important part of the *x*-ray equipment. It should be of twenty inches spark-producing capacity. Next in importance is the interrupter. The electrolytic is the best. A rapid make and break, from 8,000 to 16,000 vibrations per minute, is best. Quick exposures require a rapidly vibrating interrupter. A high vacuum tube having high penetration is necessary. Intensifying screens should be used only when the condition of the patient demands the shortest possible exposure. The plate must be a highly sensitized one.

DISCUSSION.

Dr. G. G. Burdick, Chicago, is in favor of a longer exposure, 15 to 30 seconds. Successful instantaneous skiagraphy is largely dependent on a good plate developer. He prefers amidol, rodinol and metol to hydrochinon.

Dr. P. M. Hickey, Detroit, cautioned against mistaking the shadows of the blood vessels and bronchi for areas of consolidation.

### Localization of Foreign Bodies by the Roentgen Rays.

Dr. W. E. Sweet, Philadelphia, in a paper on this subject, demonstrated his method and exhibited two localizing apparatuses which he uses.

### Care of the Static Machine.

Dr. Henry E. Waite, New York City, said that vapor in the machine is its arch enemy and is best removed with calcium chlorid, after first condensing with ice and salt. Whenever the atmosphere is cold and dry, open the machine widely and allow the plates to revolve slowly for half an hour. The plates are cleaned with kerosene oil, followed by vaselin. The brushes are boiled thoroughly in caustic potash, then rinsed in hot water and dried. All the buttons and sectors are cleaned with the kerosene oil. Do not overlook the glass legs of the platform.

DISCUSSION.

Dr. W. W. Johnson, Rochester, N. Y., prefers the use of well-baked calcium chlorid to remove the moisture, without first condensing the vapor.

Dr. J. C. Pitkin, Buffalo, places common quicklime in the bottom of his machine in a chamber specially built for this purpose so that the machine will not be injured by the lime.

Dr. Wetherill, Philadelphia, in order to determine the presence of moisture, places in his machine a strip of paper moistened with chlorid of cobalt solution.

Dr. G. G. Burdick uses for the same purpose an ordinary ginger cooky, which is a splendid hygrometer. He also exhausts the air from his apparatus, passing it through calcium chlorid before returning it to the machine, thus freeing it from vapor.

Dr. G. P. Girdwood and Dr. W. W. Johnson mentioned instances where, by mistake, carbid of calcium was put into the machine with disastrous results.

### The Trend of Modern Thought on the Subatomic Structure of Matter.

President A. W. Goodspeed, in his annual address, discussed all the theories proposed by various physicists in the field indicated by the title.

### The Development of the Skeleton, Radiographically Considered.

Preston M. Hickey, Detroit, drew the following conclusions: 1. This work is valuable not only from an embryologic and anatomic standpoint, but also from the clinical. 2. The radiograph offers a means for studying the formation of the bones, joints and epiphyses. 3. The statements in the text-books on anatomy regarding bone development are wrong, and should be revised according to the knowledge gained by the radiograph. 4. Reproduction of fetuses at different ages should be inserted in text-books on anatomy. 5. For diagnostic purposes radiographs of an injured joint should always be compared with the normal joint.

DISCUSSION.

Dr. G. P. Girdwood, Montreal, Canada, called attention to the fact that these radiograph studies of the fetus are also of medicolegal importance in determining the age of the fetus.

**Dr. James B. Bullitt** of Louisville suggested that a complete radiographic atlas of growing bones and joints would be of great value to the surgeon as well as to the anatomist.

### Technic for Making Good Dental Skiagraphs.

**Dr. Weston A. Price**, Cleveland, Ohio, prefers for this purpose a large coil, a Wehnelt interrupter and a tube that will show the bones of the hand white and transparent. He uses a special film of very flexible celluloid which is covered with a waterproof and lightproof material (unvulcanized black dental rubber, calendered thin). This film can not be either bent, broken or scratched.

### Developers.

**Dr. Gordon G. Burdick**, Chicago, recommended the following developers: *Solution A.:* Metol and ortol 15 grams each; potassium metabisulphate, 8 grams; potassium bromid, 1 gram; distilled water, 1,000 grams. *Solution B.:* Sodium sulphite, dry 40 per cent., and sodium carbonate, dry 60 per cent. in water, 1,000 grams. Use 30 c.c. of each solution and dilute with water according to the effect desired. The less water the more contrast; the more water, the softer the negative.

DISCUSSION.

**Dr. Kassabian** said that the trouble lay in the fact that operators fail to become thoroughly familiar with some one developer. They are all good, but must be used properly to produce good results.

**Dr. Dieffenbach**, New York City, prefers edinol, a salt of metol.

**Dr. Russell H. Boggs**, Pittsburg, in a paper on "Accuracy in X-Ray Diagnosis," favored a developer of: Edinol, 1 dram; sodium sulphate, 10 drams; sodium carbonate, 2 drams; water, 10 ounces.

The subject of "Collapsing Tubes" was considered by **Dr. H. K. Pancoast** and others. The belief was expressed that such an occurrence is due to the fact that some tubes are not annealed before being offered for sale.

### Dangers to the X-Ray Operator.

**Dr. John C. Pitkin**, Buffalo, described very vividly the *x*-ray burn and its attendant symptoms. He advised the wearing of protecting gloves, glasses and office coat; and that the operator remain out of the field of the *x*-radiation as much as possible while the tube is excited.

DISCUSSION.

**Dr. W. A. Price** exhibited a flexible rubber cloth that is a suitable protection against the *x*-ray. He suggested the possibility of a cumulative action of the *x*-ray which might evidence itself later in life. He also showed a non-conducting protective tube holder.

**Dr. James A. Marsh**, and others, called attention to the fact that the room and its contents become charged with secondary rays which may cause a burn on any part of the body which is not exposed to the direct ray.

In discussing the treatment of *x*-ray burn, it was shown that there is one remedial agent that is effective in all cases. In some instances, boric acid, lanolin and resorcin were effective; in others the exclusion of light, and in still others remedies such as are used in the treatment of the ordinary skin lesions, to which, however, the *x*-ray burn does not bear the slightest resemblance either etiologically or pathologically. It is as varied in its manifestations as is eczema.

Other papers were read by Dr. Kennon Dunham, Cincinnati, on "The Effect of Rays on Lower Animal Life"; by Dr. Henry K. Pancoast, Philadelphia, on "The Therapeutic Effect of the X-Rays," and by Mr. Martin Wilbert, on "A Comparative Study of Fractures of the Extremities."

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## INTERNATIONAL SANITARY CONFERENCE.

*Held at Paris, Oct. 10 to Dec 3, 1903.*

The International Sanitary Conference of Paris, 1903, was called by the government of the French Republic, at the instance of the government of Italy, for the twofold purpose of (1) consolidating into one text the decisions of the conventions of Paris, 1893, and Venice, 1897, and (2) of revising existing sanitary conventions in accordance with the advances of modern scientific research.

### Delegates.

The following powers were represented by delegates: Germany, Argentine, Austria-Hungary, Belgium, Brazil, Denmark, Spain, United States, France, Great Britain, Greece, Italy, Luxemburg, Montenegro, Holland, Persia, Portugal, Roumania, Russia, Sweden and Norway, Servia, Switzerland and Turkey. Two powers, Mexico and Japan, were not represented.

In general, the delegation from each country consisted of diplomats and technical delegates. The diplomatic representatives were of course well known to each other and in their respective circles, and many of them had been in attendance on the Venice Conference of 1897. Among the technical delegates were to be noted Gaffky of Giessen and Nocht of Hamburg; Daimer and Kobler of Austria-Hungary; Beco and Voituron of Belgium; Cortezo y Prieto of Spain; Brouardel, Proust and Roux of France; Theodore Thomson, Clemow and Richardson of Great Britain, the last representing British India; Santoliquido of Italy; Ruijsch, Stekoulis and Plate of Holland; Panayote Bey of Persia; Silva Amado of Portugal; Cantacuzene and Talashesco of Roumania; d'Anrep, Karacanovsky and Samaskine of Russia; Wawrinsky of Sweden and Norway; Schmid of Switzerland; Duca Pacha of Turkey; and Ruffer of Egypt. The delegates of the United States were all technical and were Col. William C. Gorgas, assistant surgeon-general, U. S. A.; Assistant Surgeon-General H. D. Geddings, U. S. Public Health and Marine-Hospital Service; and Medical Inspector Frank Anderson, U. S. Navy.

The conference was called to order by M. Delcassé, minister of foreign affairs of France, who welcomed the delegates on behalf of the republic and the president. M. Camille Barrère, ambassador of France at Rome, was elected president of the conference, and M. Rocco Santoliquido, director-general of the public health of Italy, was chosen vice-president. The president made an eloquent and instructive address, and announced the corps of secretaries, and his address was responded to by the vice-president on behalf of the conference.

The conference at this meeting resolved itself into three great commissions, a technical under the chairmanship of Santoliquido; ways and means under the chairmanship of Barrère, and codification with Beco as chairman. On behalf of the United States Geddings acted on the technical, Gorgas on the ways and means, and Anderson on the codification, though every member of the conference had the privilege of attending the meetings of each commission.

In addition, the technical commission chose from among its numbers a subcommission of fifteen technicians, to whom were referred all questions of a purely scientific and technical nature. The sessions of this subcommission and of the technical commission were animated, lively, and at times almost stormy.

At the conclusion of the transactions of the technical subcommission Roux presented a report which was a masterpiece, and on behalf of the commission Proust presented an admirable report.

After the third plenary session there was a lengthy recess, as about this time the king and queen of Italy arrived in Paris as the guests of the French Republic. At the conclusion of this event, the meeting place of the conference was transferred to magnificent apartments at the ministry of foreign affairs, and meetings of the various commissions were held from day to day, with frequent recesses for private consultation and to give opportunity to delegates to communicate with their respective governments for instructions on points of practice and questions of policy as they arose. In the meantime many social attentions were conferred on the delegates.

At last the reports of the various commissions were completed, presented to plenary meetings of the conference and a tentative convention was prepared, which, after a recess of ten days, received signature on December 3.

During the conference occurred the sudden death of Prof. Adrian Proust, inspector-general of the sanitary service of

France, a distinguished sanitarian and one of the most conspicuous figures in the conference and its transactions. He was stricken with apoplexy while in the discharge of his duties at the Faculté de Médecine, and died November 26. The loss to the conference, to sanitary science and to France was a severe one, and the grief of the conference and the respect of its members for the deceased were manifested by the attendance of the conference as a body at the funeral ceremonies.

### Accomplishments of the Conference.

1. A clearer view of plague and cholera was reached.
2. The convention report as signed represents the latest advances in the scientific investigation of plague; the period of incubation of the disease has been accepted as the period of observation, thus reducing to a minimum the hardships to be imposed on passengers.
3. An emphatic declaration has been made that merchandise is dangerous from the point of view of conveying plague, only when contaminated with pest products or harboring plague-stricken rats.
4. The rôle of the rat in the dissemination of plague has been very fully canvassed and the danger from the rodents fully recognized. Special attention has been paid to methods for their destruction in both empty and laden vessels.
5. Previous convention reports have been edited and codified, and inconsistencies and contradictions removed.
6. A much more calm and dispassionate feeling now exists as to the danger from plague. The disease is not lightly regarded, but has been robbed of much of its traditional terror.
7. While a proposition for the establishment of an international sanitary bureau does not form an integral part of the report, the formation of such a bureau will be urged on the signatory power through regular diplomatic channels.
8. The methods of disinfection of ships and merchandise as recommended in the reports and prescribed in the convention are modern, reasonable and effective.

A most gratifying feature of the conference is that the sanitary system of the United States is now more thoroughly understood and better appreciated abroad than ever before. The essentially American work of the sanitation of Havana and other Cuban cities, the abolition of yellow fever from the island, and the demonstration of the rôle of the mosquito in the transmission of the disease were subjects for unstinted praise, and the example of the United States was recommended to other countries for their guidance and emulation.

But the picture thus drawn has a reverse side. It was found impossible to obtain the signature of the Turkish delegates to the convention. No measure was proposed to which they did not make numerous reservations, and on the date of the signature, in addition to their reservations, they filed a general protest in the whole matter of the regulation of pilgrimages and the betterment of the sanitary situation under the control of the Ottoman government on the Red Sea and Persian Gulf. So long as the Ottoman government maintains this attitude it will be difficult to obtain the full benefit of the convention, and it remains to see what diplomatic representation will do.

## BOSTON SOCIETY OF MEDICAL SCIENCES.

*Meeting held Dec. 15, 1903.*

### The Etiology of Scarlet Fever.

Dr. F. B. Mallory of Harvard Medical School and of the pathologic department of the Boston City Hospital, read a paper on this subject, stating the results of his research in a series of cases and his discovery of certain protozoa in the skin of the patients. Bodies made up of a granular substance, with a firm reticulum, and in some cases one or more vacuoles, and in size 2 to 7 microns in diameter, were made out. There was a second group of radiate bodies, 4 to 6 microns in diameter, having a central body and 10 to 18 segments arranged about it. These definite rosettes with numerous segments "are closely analogous to the series seen in the asexual development (schizogony) of the malarial parasites, but in addition there are certain coarsely reticulated forms which may represent stages in sporogomy or be due to *degeneration of the other forms.*" Later these segments separate from each other, but still maintain a relation to the central body.

Both groups stain well with methylen blue. Both are found in the epithelial cells of the epidermis, between these cells, in the superficial lymph spaces and in the spaces of the corium, but nowhere else.

Dr. Mallory pointed out the marked resemblance to the malarial parasites, illustrating by microscope and lantern slides. He has found the organisms in only four cases. Skin from early cases failed to show the parasite.

"In conclusion," said Dr. Mallory, "I wish to say that while I personally believe that these bodies are protozoa and have an etiologic relation to scarlet fever, I am far from claiming that such a relation has been proved."

### Shape of Blood Corpuscles.

Dr. Frederick I. Lewis, a worker in the histologic laboratory of Harvard, stated his belief that the theory of a globular or bell-shaped red blood corpuscle, instead of the universally accepted biconcave disc as the normal shape of that corpuscle, has been found by certain experiments made by him in his work there.

The meeting concluded with an exposition of "Radium," illustrated by specimens, by Dr. Francis H. Williams.

## SOUTHERN MEDICAL COLLEGE ASSOCIATION.

*Annual Meeting, held at Atlanta, Ga., Dec. 14, 1903.*

This meeting was a very satisfactory one, and the consensus of opinion was that ultimately there will be nothing in the way of amalgamating the Southern Medical College Association with the Association of American Medical Colleges. The following colleges were represented: Medical College of Virginia, Dr. C. Tompkins; Medical Department of University of Nashville, J. D. Jacobs; Medical Department of Vanderbilt University, G. C. Savage; Medical Department of University of the South, J. S. Cain; Birmingham Medical College, J. C. LeGrande; Medical Department of Fort Worth University, Bacon Saunders; Medical Department of University of Tennessee, Dr. R. O. Tucker; Medical Department of Baylor University, J. M. Rosser; Tennessee Medical College. Knoxville, Charles P. McNabb; Medical Department of University of Mississippi, J. B. Bullitt.

The president, in his address, recommended that still further advancement be made in the way of preliminary requirements. and there was an amendment to the constitution offered with that in view, this amendment requiring two years in the high school. An amendment to the constitution was adopted requiring that forty-one months shall intervene between matriculation for the first course and the date of graduation, and requiring that eleven months shall intervene between the matriculation for any one course, and the matriculation for the next succeeding course.

The Memphis Hospital Medical College applied for readmission into the association, and the application was laid over for one year, according to the constitution.

### New Officers.

The officers for the ensuing year are: Dr. C. Tompkins, president; Dr. Bacon Saunders, vice-president; Dr. G. C. Savage, secretary-treasurer; Drs. J. S. Cain, L. C. LeGrande and James M. Rosser, executive committee.

## SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Sixteenth Annual Session, held in Atlanta, Ga., Dec. 15-17, 1903.*

Under the presidency of Dr. J. Wesley Bovée, Washington, D. C.

An address of welcome was delivered by Mayor Evan P. Howell, which was responded to by Dr. George Ben Johnston. After a brief report by the chairman of the local committee of arrangements, Dr. Willis F. Westmoreland, the reading of papers was begun.

### A Study of the Prostate and Treatment of Prostatic Hypertrophy.

Dr. G. Wiley Broome, St. Louis, concluded that: 1. The normal position of the urethra is in the floor of the bladder; in urinary obstruction it is always elevated from one to two inches above the floor. 2. Normally, there is no third lobe; but segmentation takes place behind the prostatic fissure in consequence of a hyperplastic process, this process occurring in the direction of least resistance—into the cavity of the bladder. 3. In only a small percentage of cases is a hypertrophied prostate responsible for urinary obstruction. 4. No matter how large the prostate becomes, it will retain its functionating capacity. It is not the organ which causes suffering. 5. By prostatectomy this functionating organ is mutilated or destroyed, and the bladder, which really causes the patient trouble, is left *in situ* without any operation on it. 6. In only a small percentage of cases can the prostate be enucleated. 7. Routine prostatectomy for urinary obstruction is wrong. 8. The commissure and capsule are obliterated in the fibromyomatous variety of prostate. In the adenomatous variety, if complete and permanent drainage is established, the prostate will shrink.

DISCUSSION.

DR. C. H. MAYO, Rochester, Minn., said he had operated by the median perineal method in over thirty cases by the Goodfellow technic, and had been much pleased with the method and results.

DR. W. P. CARR, Washington, D. C., had seen only one case in which there was any difficulty in peeling the prostate out of its capsule. Prostatectomy in healthy men has a very small mortality; but when an infected bladder, Bright's disease or atheromatous arteries exist, it is a serious operation.

### Edematous Encephalitis.

DR. W. P. CARR, Washington, D. C., called attention to a brain condition frequently encountered when operating for cerebral epilepsy and for suspected cerebral abscess following postgrippal mastoid disease. Drainage gave much benefit. He reported four cases. It is impossible to say, in most cases, whether the edematous encephalitis is caused by injury or by the influenza poison, or whether it is a lesion of epilepsy. He had found no cases in the literature in which edema was noted as a marked feature. In cases of severe cerebral symptoms following influenza or blows on the head, if the symptoms persisted or became worse after weeks of medical treatment, he thought exploration justifiable.

After making an osteoplastic flap, if there is an edematous appearance, a grooved director should be introduced into the brain substance carefully in several places, and the serum drained off until the brain assumed a normal appearance. A small soft drainage tube should be inserted into the arachnoid space and left while a copious discharge of serum continued.

DISCUSSION.

DR. C. H. MAYO said that he and his brother had operated on many cases of epilepsy and traumatic insanity, and he could corroborate what the essayist had said regarding edematous encephalitis. Drainage is the best treatment.

### A New Device and Method for Intestinal Anastomosis.

DR. W. P. CARR also presented a method of intestinal union by small silver clamps; he thought it easier, quicker and more free from objectional features than the Murphy button. The inverted edges of the gut are clamped from the inside. He had used the clamps on one man who recovered.

DISCUSSION.

DR. I. S. STONE, Washington, D. C., discussed cases of retention of the Murphy button, and announced his intention to try Dr. Carr's device.

DR. GUY L. HUNNER, Baltimore, and DR. J. GARLAND SHERRILL, Louisville, Ky., advocated suturing in preference to all mechanical devices.

### The Surgical Physiology of the Lymphatic System.

DR. C. H. MAYO, Rochester, Minn., said that a study of the lymphatic system readily explained many normal physiologic as well as pathologic processes. The subject is deservedly receiving more attention from surgeons. The system is constantly engaged in maintaining nutrition as well as defense against pathologic processes. He described the struggle in glands between infection and leucocytes. The interior of the brain is deficient in lymphatics, the arachnoid serving this purpose on the surface. Hemorrhages into its structure become cysts from lack of absorption, and infections cause little temperature or general disturbance except from pressure. The liver and kidney show the same condition in a less marked degree. The lungs, rich in lymphatics, give constant temperature from infectious diseases. Chills usually signified the direct delivery of accumulations of infection into a vein. There is, therefore, a real principle involved in drainage, whether it be internal or external. He classified drainage thus: 1. Rest by splints, pressure, dressing or bed, to quiet the circulation. 2. Elevation to reduce arterial supply and favor venous and lymphatic return. 3. Massage to break up coagulated exudates and enable the lymph vessels to remove the exuded material. 4. Moist dressings favor the escape of exudate from open wounds and also favor the lymphatic circulation in closed injuries. 5. Adjuncts to drainage in the use of solutions having affinity for moisture acting by osmosis, as glycerin or alcohol. 6. Wound drainage by the open method with or without secondary suture. 7. Incision. 8. Wicks, gauze, etc., as mechanical aids.

### Early Diagnosis of Cancer of the Uterus.

DR. F. F. SIMPSON, Pittsburg, Pa., said that to the average practitioner cancer is rare compared with other afflictions, but as a cause of death its frequency is appalling. Statistics show that 1 out of every 14 people who reach the age of 30 dies of cancer. Out of every 28 women who pass the age of 30 cancer kills 1. The paper was largely statistical, and the author closed by predicting that well-informed women of the cancer age would seek protection by regular quarterly examinations. Early diagnosis would then be the rule in cancer of the uterus, as it is now in appendicitis.

### Fracture-Dislocation of the Spine.

DR. J. SHELTON HORSLEY, Richmond, Va., reviewed the authorities and called attention to the fact that without an operation or a postmortem it was impossible to tell by symptoms alone whether the cord was completely destroyed. He advocated the plan of McCosh, to operate in all cases of complete paralysis below the injury unless there was improvement within twenty-four hours. The danger of delay lies in degenerative changes in the spinal cord which set in soon after the injury. Early operation might arrest this degeneration. He reported six cases.

(*To be continued.*)

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## Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

### Bronchorrhea.

In bronchorrhea the following combinations are recommended by Danforth in *Amer. Text-Book of Applied Ther.*:

℞. Copaibæ ........................gtt. xx 1|30
Pulv. opii ........................gr. ii |12
Pulv. acaciæ q. s.
M. Ft. capsulæ No. x. Sig.: One every three hours; or:
℞. Copaibæ ........................gr. xx 1|30
Acidi gallici ........................gr. xxx 2|
Pulv. acaciæ q. s.
M. Ft. cap. No. x. Sig.: One every three hours.

### Amebic Dysentery.

Amebic dysentery can be cured, according to S. G. Gant, in *Amer. Med.*, by medication through the bowel alone. During the first week the bowel is irrigated daily through a long colon tube with a solution containing grains thirty (2.00) of silver nitrate to the pint of water. During the second week grains twenty (1.30), the third week grains ten (.65) are used and continued for the next two weeks, alternating with the following emulsion given per rectum:

| | | | | |
|---|---|---|---|---|
| ℞. | Iodoformi | ʒii | 8 | |
| | Bismuthi subnitratis | ʒiv | 15 | |
| | Olei olivæ | Oi | 500 | |

M. Sig.: To be used as an injection by the bowel once daily.

The silver solution is then stopped and the emulsion alternated with the following combination:

| | | | | |
|---|---|---|---|---|
| ℞. | Sodii biboratis | ʒii | 8 | |
| | Ext. krameriæ flu. | ℥iv | 120 | |

M. Sig.: Two tablespoonfuls to be added to a pint of water and injected by the bowel once daily. For a week the diet should consist of large quantities of unsalted butter and baked potatoes. The patient may at the end of this period be given a chop, unsalted butter, baked potatoes, eggs and milk.

### Pruritus Vulvae.

The following combinations are recommended by Beall, in *Merck's Archives*, in the treatment of pruritus of the vulva:

| | | | | |
|---|---|---|---|---|
| ℞. | Menthol | gr. iv | | 25 |
| | Quininæ sulph. | gr. x | | 65 |
| | Acidi carbol. | gr. xii | | 75 |
| | Ung. hydrarg. nitratis | ʒss | 2 | |
| | Ichthyol | ʒi | 4 | |
| | Liq. petrolati | ʒiii | 12 | |
| | Ol. ricini | ʒv | 20 | |

M. Sig.: Apply freely after washing the parts with hot water; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Cocainæ hydrochlor. | gr. v | | 30 |
| | Tinct. eucalypti | gtt. xlv | 3 | |
| | Chloralis hydratis | gr. xxxv | 2 | 30 |
| | Aquæ destil. q. s. ad | ℥iv | 120 | |

M. Sig.: Apply as necessary to stop the itching.

### Acute Bronchial Catarrh.

There is no remedy, according to Yeo, in his *Clin. Ther.*, which so readily relieves the distressing dryness of the mucous membrane in the early stages of acute bronchitis as does tartarized antimony. He recommends it combined with small doses of morphin, codein or opium as follows:

| | | | | |
|---|---|---|---|---|
| ℞. | Vini antimonialis | ʒiss | 6 | |
| | Liquoris morph. acetatis | ʒss | 2 | |
| | Liq. ammonii acetatis | ℥iss | 45 | |
| | Aq. laurocerosi | ʒii | 8 | |
| | Syrupi simp. | ʒiii | 12 | |
| | Aquæ q. s. ad | ℥vi | 180 | |

M. Ft. mistura. Sig.: Two tablespoonfuls every three or four hours.

The following combination is sometimes used by the author as a substitute for the foregoing prescription:

| | | | | |
|---|---|---|---|---|
| ℞. | Pulv. opii et ipecacúanhæ | gr. v-x | | 30-.65 |
| | Spts. etheris nitrosi | ʒi | .4 | |
| | Liq. ammon. acetatis | ʒiii | 12 | |
| | Aq. camphoræ | ℥iss | 45 | |

M. Sig.: At one dose, to be taken at bedtime, followed the next morning by a saline purgative.

When fever is present the following is of great value:

| | | | | |
|---|---|---|---|---|
| ℞. | Tinct. aconiti | m. xxiv | 1 | 65 |
| | Vini antimonialis | ʒii | 8 | |
| | Liq. morph. acetatis | m. xl | 2 | 65 |
| | Liq. ammon. acetatis | ℥iss | 45 | |
| | Aq. camphoræ q. s. ad | ℥viii | 240 | |

M. Ft. mistura. Sig.: Two tablespoonfuls every two or three hours.

It should be kept in mind, however, when opium, antimony and aconite, or similar preparations are given, that they should be discontinued when the definite symptoms for which they are given have disappeared.

As a stimulating expectorant the following combination is recommended:

| | | | | |
|---|---|---|---|---|
| ℞. | Infusi senegæ | ℥iii | 90 | |
| | Sodii bicarb. | ʒi | 4 | |
| | Sodii chloridi | | | |
| | Ammon. carb., āā | gr. xxiv | 2 | 65 |
| | Syr. tolutani | ʒiii | 12 | |
| | Aquæ q. s. ad | ℥vi | 180 | |

M. Ft. mistura. Sig.: Two tablespoonfuls every six hours.

Dr. N. S. Davis recommends the following mixture in acute bronchitis:

| | | | | |
|---|---|---|---|---|
| ℞. | Tinct. veratri viridis | ʒiss | 6 | |
| | Vini antimonii | ʒiv | 24 | |
| | Tinct. opii camph. | ℥iiss | 75 | |
| | Liq. ammon. acetatis | ℥ii | 60 | |

M. Ft. mistura. Sig.: One teaspoonful in a tablespoonful of water every two, three or four hours.

| | | | | |
|---|---|---|---|---|
| ℞. | Ammon. carb. | gr. xxx | 2 | |
| | Tinct. hyoscyami | ʒiv | 15 | |
| | Codeinæ | gr. ii | 12 | |
| | Syr. pruni virg. | ʒiv | 15 | |
| | Aquæ camphoræ q. s. ad | ℥ii | 60 | |

M. Sig.: One teaspoonful every three hours.

E. Fletcher Ingals recommends the following combination to relieve the cough:

| | | | | |
|---|---|---|---|---|
| ℞. | Ext. cannabis indicæ | gr. ⅛ | | 008 |
| | Ext. hyoscyami | gr. ss-i | | 03-.06 |
| | Ext. nucis vom. | gr. ¼-ss | | 015-.03 |
| | Quininæ hydrobrom. | gr. i-ii | | 06-.12 |
| | Camphoræ monobrom. | gr. ii-iii | | 12-.20 |

M. Ft. capsulæ No. i. Sig.: One such capsule every four to six hours; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Morphinæ sulph. | gr. i | | 06 |
| | Ammon. carb. | gr. xxx-ʒi | 2-4 | |
| | Syr. pruni virg. | | | |
| | Mist. glycyrrhizæ co., āā | ʒiv | 15 | |

M. Sig.: One teaspoonful in water and repeat as necessary.

He condemns the use of morphin in the capillary form of bronchitis except in very small doses. Ammonium chlorid or ammonium carbonate are useful preparations in this form of bronchitis; or a combination of the carbonate and iodid is of value:

| | | | | |
|---|---|---|---|---|
| ℞. | Ammon. carb. | ʒii | 8 | |
| | Ammon. iodid. | ʒiii | 12 | |
| | Syr. glycyrrhizæ | | | |
| | Syr. tolutani, āā | ℥ii | 60 | |

M. Ft. mistura. Sig.: One teaspoonful every two or three hours in water.

Stevens, in *Med. Rev. of Reviews*, recommends the following treatment of acute bronchitis:

| | | | | |
|---|---|---|---|---|
| ℞. | Terebeni | | | |
| | Ol. eucalypti, āā | ʒss | 2 | |
| | Strych. sulph. | gr. 1/3 | | 02 |
| | Codeinæ sulph. | gr. iii | | 20 |

M. Ft. capsulæ No. xii. Sig.: One capsule every four hours.

The following is recommended by De Brun in the treatment of chronic bronchitis:

| | | | | |
|---|---|---|---|---|
| ℞. | Ichthyol | gr. xxx | 2 | |
| | Glycerini | | | |
| | Syr. aurantii, āā | ʒiv | 15 | |
| | Aquæ | ℥iii | 90 | |

M. Sig.: One half to one teaspoonful several times daily.

### Acute Peritonsillitis.

Shurley, in his "Dis. of Throat and Nose," recommends, in the treatment of acute peritonsillitis, that the patient be given a brisk cathartic, either mercurial or saline in conjunction with hot bathing. Ice should be applied externally and the patient should be instructed to hold bits of ice in the mouth. Local applications by means of spray or pigment of turpentine or carbolic acid and glycerin or insufflations of iodoform are recommended. He advises, however, hot applications locally after the disease has become well established, in order to favor suppuration. Applications of steam to the throat or hot gargles of slippery elm tea will promote suppuration; the pain is so severe as a rule, however, that the attempt at gargling will produce harm rather than good. Throughout the course of the disease a spray of a 2 to 4 per cent. solution of cocain will be of great value in relieving the intense suffering of the patient. When suppuration has taken place opening the abscess is in order, first locating, if possible, the seat of the pus by introducing the finger into the pharynx.

E. F. Ingals states that the disease may be aborted in about one case in four by applying to the inflamed gland once or twice a day a solution of silver nitrate, gr. 60 (4.00) to the ounce (30.00), two or three applications usually being sufficient. The value of local applications of guaiacol should be emphasized in the treatment of this painful condition, applied at any stage of the disease, with the assurance that excellent results will be obtained, as in almost every case the swelling becomes reduced and the patient will be enabled, after one or two applications, to open the mouth wider and with less pain, and he will also be able to take nourishment, which may not have been done previously on account of the extreme pain. Guaiacol should be applied by the physician himself, taking care not to let any of the solution drop into the pharynx or larynx. The following strength solution should be applied at first, and the strength gradually reduced as the patient improves:

| | | | | |
|---|---|---|---|---|
| ℞. | Guaiacol | | | |
| | Olei olivæ, āā | ʒii | 8 | |

M. Sig.: Apply locally, by means of a cotton swab, twice daily.

Internally the tincture of aconite or tincture of opium may be given in small and oft-repeated doses and less frequently as the subjective symptoms subside. Codein in doses of gr. 1/3 (.02) to 1/2 (.03) is of service, repeated every three hours in order to relieve the pain and allow the patient to sleep.

### Nutritive Enema.

The following formula is recommended by *Rev. francaise de Méd. et de Chir.* as a suitable combination for nutrient enemas:

| | | | | |
|---|---|---|---|---|
| ℞. | Liq. peptones | ℥ii | 60 | |
| | Eggs, 1 to 3. | | | |
| | Sol. glucose (20 per cent.) | ℥iii | 90 | |
| | Sodii chloridi | gr. xxiiss | 1 | 50 |
| | Pulv. pepsini | gr. viiss | | 50 |
| | Tinct. opii | gtt. iii | | 20 |
| | Bouillon | ℥vi | 180 | |

M. Sig.: For one enema.

### Chronic Orchitis and Traumatic Inflammations.

The following has been recommended in the treatment of such cases of orchitis as have become chronic, also of inflammatory conditions arising from traumatism:

| | | | |
|---|---|---|---|
| ℞. | Ichthyol | ʒii | 8 |
| | Plumbi iodidi | gr. xv | 1 |
| | Ammon. chloridi | gr. xxx | 2 |
| | Liq. petrolati | ℥ii | 60 |

M. Sig.: Apply locally on lint.

### Treatment of Puerperal Infection.

The treatment of puerperal infection does not differ essentially from the treatment of sepsis from a surgical operation, according to J. H. Burtenshaw, in *Internat. Med. Magazine.* The treatment, according to this author, should consist in: 1, removing the source of infection; 2, neutralizing the effects of the septic germs or their toxins; supporting the patient's vitality. He condemns the use of the sharp curette in relieving the uterus of its contents, preferring the finger or a dull wire curette in order not to abrade the endometrium. Lacerations of the vaginal walls and cervix should be cauterized with pure carbolic acid and the cavity of the uterus and the vagina should be irrigated with two gallons or more of normal saline solution or a 1 per cent. solution of lysol, after which these cavities should be packed with iodoform gauze and replaced by a similar packing after twenty-four hours. After removing the second packing the uterus should be left alone. He prefers the iodoform to alcohol or formalin tampons. A suppository containing fifteen (1.00) grains of iodoform may be introduced into the uterus, followed by a packing of plain sterilized gauze, and repeat once the following day. In his opinion the value of continuous irrigation in these cases is overestimated because of the fact that the pathogenic organisms are situated too deeply in the tissues.

To neutralize the effects produced by the germs or their toxins, elimination must be promoted by careful attention to the bowels and kidneys. The saline solution is of value in aiding elimination. In puerperal sepsis, especially, does the protoplasm of the leucocytes show marked affinity for iodin, consequently the author recommends Pryor's method of opening the posterior cul-de-sac and packing the pelvic cavity with a 10 per cent. iodoform gauze. The value of unguentum Credé, in the author's experience, is very limited in the treatment of puerperal sepsis.

To support the patient the diet must necessarily be nourishing, and at the same time concentrated, consisting of peptonized milk, malted milk, egg albumin, calvesfoot jelly, meat extracts, and later, when the temperature has fallen, the patient should be given alcohol as a food. In the way of medicines he recommends ergot, strychnia nitrate from the commencement of the attack. The temperature should be controlled with tepid or cold sponging followed by an alcohol rub and repeated as necessary.

## Medicolegal.

**No Damages Recoverable for Bodily Disfigurement.**—The Branch Appellate Court of the First District of Illinois holds, in Lake Street Elevated Railroad Company vs. Gormley, that the marring of personal appearance and humiliation from contemplation of bodily disfigurement are not elements entering into the computation of pecuniary damages for personal injuries sustained by reason of alleged negligence.

**Eleven Thousand Dollars Damages Allowed for Rupture.**—The Appellate Court of Illinois for the First District holds, in City of Chicago vs. Gillett, that a judgment for $11,000 damages should not be disturbed because of its amount where a man 44 years of age who had been earning $70 to $75 a month sustained a severe rupture from falling through a defective sidewalk, the evidence showing that the rupture was in the neighborhood of 22 inches around, had caused suffering day and night during the two years and a half up to the time of the trial, that it had to be supported by a leathern bag or pouch, incapacitated him for manual labor of any consequence, was entirely irreducible, and was likely to grow worse.

**Casualty Company Not Liable—Death from Eating Unsound Oysters.**—The Supreme Court of Texas, in the case of the Maryland Casualty Company vs. Hudgins, takes a different view from that of the Court of Civil Appeals, reported on page 1395 of THE JOURNAL, May 16, 1903, of the construction to be placed on a policy of accident insurance which provided that it did not cover "injuries, fatal or otherwise, resulting from poison, or anything accidentally or otherwise taken, administered, absorbed, or inhaled," the insured having died from eating unsound oysters. It holds that the plain meaning of the language used was that the company accepted from its liability all injuries which might arise from whatever thing of any kind or character, poisonous or not, the insured might voluntarily and consciously take into his stomach—that is, to swallow as food or drink; that the death of the insured was caused by means within the exception from liability contained in the contract of insurance, and that no cause of action was or could be shown against the company on that contract. As to the claim that, while the eating of the oysters was not accidental, the eating of spoiled oysters was accidental because the insured did not intend to eat unsound oysters—the accident consisting in the state of the thing swallowed, the Supreme Court pronounces that a shadowy distinction. But, admitting it to be sound, it says that it did not take the case out of the exception; for the spoiled oysters was a thing, it was "taken," from which the injury resulted, which brought the case under the exception, and took it out of the obligation of the contract.

**Qualification Presumed—Right to Sue for Services.**—The Appellate Court of Illinois for the Second District says, on the appeal of the County of Jo Daviess vs. Staples and others, an action brought by the latter to recover for the performance of a surgical operation on a resident of East Dubuque, Ill., taken therefor to a hospital in Dubuque, Iowa, that it was averred that the parties suing were "legally qualified to practice medicine and surgery at the time when and place where said services were rendered." As just stated, the services were rendered in Iowa. There was no proof whether the statutes of Iowa required any license to entitle a person to practice medicine and surgery in that state, or prescribed any prior test of any kind, nor that the parties suing had taken out any such license or complied with any such requirement. On the part of the county it was insisted that for failure to prove that allegation the verdict rendered for the parties suing could not stand. But the Appellate Court holds otherwise. It says that this question was not raised in any manner in the court below. A plea of tender which was made was an admission of the parties' right to sue for the sum tendered. While it was held in City of Chicago vs. Honey, 10 Ill. App. 535, that in this state an unlicensed physician can not recover fees for his professional services, yet the current of judicial decision in this state appears to be that in a suit for such services a license or due qualification under the law will be presumed. But the laws of Iowa were not proved, and in the absence of proof it is presumed that the common law prevails in a sister state. At common law a surgeon could recover for his services. In Chitty on Contracts, 11th Am. Ed. 836, it is said: "Where there is no restraint imposed by statute, physicians and surgeons in the American states have the same right as others to the benefit of that great principle of the common law that when services are performed on request, and no special agreement is made in reference to them, the law raises an implied promise to pay so much as the person performing them deserves to have, and an action lies on such promise."

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### American Medicine, Philadelphia.

*December 19.*

1 *The Finsen Light and Roentgen Rays in the Treatment of Diseases of the Skin. Jay F. Schamberg.
2 *The Diagnosis of Trichiniasis. William F. Cheney.
3 Perforated Gastric and Duodenal Ulcers; with a Report of Four Cases Operated On. John H. Gibbon.
4 *The Influence of the Municipal Milk Supply on the Deaths of Young Children. George W. Goler.
5 *Indications for Operations on the Gall Bladder and Bile Ducts. Randolph Winslow.
6 *The Recent Epidemic of Smallpox in California. Daniel Crosby.

1. **Finsen and X-Ray Therapy.**—Schamberg finishes his paper with the following conclusions:

1. The Finsen light is generally recognized as constituting the best known treatment for lupus vulgaris. It is necessary to employ the large lamp used by Finsen. The smaller modified lamps may suffice for recent and superficial cases, but do not produce sufficient penetration of light to cure long-standing and deep-seated lesions.

2. In lupus erythematosus the Finsen light, in our hands, has effected some improvement but no cures. Cases exhibiting telangiectases and but little thickening of the skin, showed the most improvement.

3. In certain cases of lupus vulgaris the Röntgen rays give most gratifying results. This method of treatment is to be given preference over the Finsen light when the lupus nodules are ulcerated, when the mucous membrane of the nose, lips, or mouth is affected, and probably also in hypertrophic and vegetative forms of the disease.

4. The Röntgen rays have certain distinct limitations in the treatment of cancer of the skin. The rays will cure practically all patients having superficial cancer, and some with carcinoma of the integument. But the majority of deep-seated cutaneous and subcutaneous growths do not do well. They may improve for a while and deceive both the patient and the physician, but relapse, and subsequent spreading is common. Buccal epithelioma and deep-seated epitheliomas involving the lip, had better be treated surgically and subsequently subjected to radiotherapy. The Röntgen rays find a splendid field of usefulness in superficial epithelioma about the eyelids and the nasal alæ, and in rodent ulcers that are surgically inaccessible. Superficial epitheliomas may be cured by many methods, but none gives such beautiful cosmetic results as the Röntgen rays.

5. The Röntgen rays are extremely valuable in acne, in which disease the most brilliant results are obtained, even in long-standing cases.

6. The Röntgen rays are of value in many cases of eczema, both in relieving the itching and in effecting a disappearance of the eruption. The rays have proved of great benefit in recurrent vesicular eczemas of the hands and feet.

7. In psoriasis, the effect of the Röntgen rays is but temporary, and relapses are not less common than under other methods of treatment.

8. The Röntgen rays find a large field of usefulness in dermatologic practice. In addition to the dermatoses mentioned, the rays have been found to be beneficial in sycosis, lichen planus, hypertrichosis, ringworm and favus of hairy regions, tuberculosis of the skin, mycosis fungoides, blastomycetic dermatitis, localized pruritus, etc.

9. In the treatment of diseases of the skin the liability to the production of a burn, with ordinary precautionary measures, is extremely slight.

2. **Trichiniasis.**—Cheney reports a case in which the diagnosis was obscure, most of the findings being negative. There was a general myositis with continued fever, moderate leucocytosis and diazo reaction in the urine. He reviews the prominent features of the case. There was no history of acute onset such as one would expect. A differential count of white corpuscles was made, showing 70 per cent. of polymorphonuclears; 8 per cent. of large lymphocytes; 12 per cent. of small lymphocytes and eosinophiles 10 per cent. There was thus a decided increase in the eosinophiles above normal, though the percentage was not so high as in some of the cases reported by previous observers. The addition of eosinophilia to the previous findings seemed to make the diagnosis positive. Further investigation of the muscle tissues showed trichinæ very clearly present, a fact which can never mean anything else but trichiniasis. Eosinophilia occurs in other conditions, though all these vary so widely from the clinical picture of trichiniasis that practically no difficulty is offered in differential diagnosis. The condition thus becomes one of the most easily diagnosed diseases, provided its peculiar features are borne in mind. The patient did not think she had eaten any pork, and the history was decidedly negative.

4.—See abstract in The Journal, xli, p. 1107.

5. **Biliary Surgery.**—The object of Winslow's paper is stated to be to call attention to the frequency of lesions of the bile passages and the serious effects resulting from their neglect. He would not resort to laparotomy at the onset of every attack of pain in the gall-bladder region, but the existence of repeated paroxysms, persistent or recurring jaundice and a condition of tenderness or distress are serious signs and should not be allowed to continue indefinitely. The difficulty and danger of operation increase in proportion to the length of time, and when a fair trial of internal treatment fails, operative measures should be resorted to without delay.

6. **Smallpox in California.**—Crosby describes the peculiarities of the recent epidemic of smallpox, its mildness, rapidity of evolution and the fact that quite a large proportion of cases responded to successful vaccination after convalescence. Typical pustules and secondary fever were absent, as also pitting and the usual sequelæ. The diagnosis of smallpox, however, is based on the occurrence of some exceptionally severe cases at all points where the epidemic existed, with some fatalities.

### Boston Medical and Surgical Journal.

*December 17.*

7 *Malaria and Mosquitoes of Worcester. A Year's Observations on the Habits of Culex and Anopheles. (To be continued.) William W. McKibben.
8 *Some Cases of Facial Erysipelas from Erosions of the Nasal Septum. John W. Farlow.
9 A Case of Gumma of the Fallopian Tube. George S. Whiteside.
10 *The Indol of the Feces as a Measure of Putrefactive Processes in the Intestines. A. E. Austin.
11 *Was He Insane? A Study in Mental Diagnosis. (Concluded.) C. A. Drew.

7. **Malaria.**—McKibben gives the history of the introduction of malaria into Worcester by Italian laborers and returned soldiers, and of the epidemic that occurred there.

8. **Erysipelas.**—Farlow calls attention to a probably overlooked cause of so-called idiopathic empyema, namely, erosion of the nasal septum, and reports cases where this probably existed. The treatment of the nose seemed to be an important factor in the suppression of the attacks.

10. **Intestinal Putrefaction.**—Austin has investigated the indol contents of feces as an index of intestinal putrefaction. He remarks that the amount of indol found is vastly greater than that found by Baumstark, who regarded 17 mgms. as the

average normal quantity, and the largest amount he discovered in pathologic conditions was 114 mgms. The analysis of Austin, however, ranged from 22 to 260 mgms. He thinks it is possible that the larger amount was due to the fact that skatol was reckoned with it. As to the purity there can be no question, both from the methods by which they were obtained, excluding all other products, their well-defined crystalline form and the response of indol to Legal's reaction.

11. **Querulant Insanity (?).**—Drew finishes an interesting account of a case of moral depravity and suspected moral insanity which, he concludes, was not properly insanity. The condition, he thinks, hardly comes within the legal conception of insanity.

### Medical Record, New York.

*December 19.*

12 *Leprosy in Hawaii. James T. Wayson.
13 *The Diagnosis and Treatment of Intussusception, with a Report of Four Cases. Henry Roth.
14 *An Unappreciated Source of Typhoid Infection. P. B. Barringer.
15 *Points to Be Observed by the Family of a Tuberculous Patient. C. P. Ambler.

12. **Leprosy in Hawaii.**—According to Wayson leprosy was not introduced into Hawaii by Chinese, but probably came from the South Sea Islands some time before. He thinks that a markedly syphilized race is especially likely to lepra infection, probably carried by spores not yet found. He describes the Molokai asylum, and suggests the probability of its having to be made a national asylum, and refutes the objections made to this course.

13. **Intussusception.**—Beside reporting cases, Roth discusses the literature at considerable length. He believes that intussusception in children may and should be diagnosed early. The characteristic symptoms are marked, and if the disease is borne in mind it is almost impossible to fail to recognize it. He believes in operation as the only practical treatment. Injection and inflation are unscientific and dangerous. If the case is seen early enough and reduction by mechanical means attempted, all preparations should be made for an aseptic and rapid laparotomy. Attempt at reduction by pulling on the bowel is very dangerous; it is best done by pressing on the apex of the intussusception through the ensheathing gut. In early cases reduction will readily be accomplished. In desperate or gangrenous cases resection may be required, with entero-anastomosis or an artificial anus, leaving the intussusception unrelieved to take care of itself. Entero-anastomosis has not the advantages of complete or partial resection.

14. **Typhoid Infection.**—The danger to the traveling public from the common arrangements on the cars, where infected feces are dropped along the railroad tracks to be scattered in the form of dust, is especially noted by Barringer. He found that in railroad hospitals a great majority of the typhoid cases are track men, who are not exposed to the dangers of water-borne infection. The people who work along the track are not the only ones liable to danger. Those traveling on the train, especially on the rear cars, also suffer serious risks of infection. The remedy, he thinks, lies in retention closets which can be cleaned at the end of the trips.

15. **Tuberculosis.**—Ambler enumerates the precautions which the tuberculous patient should observe to avoid danger to others, namely, proper deposit of expectoration, thorough cleansing by boiling in water all the eating and drinking utensils used by him, the avoidance of kissing and coughing as far as possible. Tuberculous patients should not be employed in markets where foodstuffs are sold, and should not handle or prepare food for the family. The room occupied by them should be so arranged that the dust floating in the air can be kept at a minimum, without carpets or rugs, and well ventilated. Wounds and abrasions should be looked after, and small children crawling on the carpets should be especially cared for. The patient should avoid public halls and meeting places.

### New York Medical Journal.

*December 19.*

16 *On the Etiology of Pulmonary Tuberculosis in Its Relation to Diseases of the Nose and Throat. W. Freudenthal.
17 *Remarks on Mechanotherapy, Massage, Bone Setting and Osteopathy. John Madison Taylor.
18 *On the Natural Habitat of the Tubercle Bacillus. J. W. Kime.
19 *A Method of Rapid Extirpation of Nasopharyngeal Fibromata, with Report of Cases. Gordon King.
20 *Things Every Tuberculous Patient Should Know. Martin L. Stevens.
21 *The Genesis and Nature of Medicinal Dioxides. Friederich Elias.

16. **Tuberculosis.**—The importance of the conditions of the nasal passages in the etiology of tuberculosis is pointed out by Freudenthal, who refers to a former article. He especially considers that atrophic rhinitis through the too free passage of air through the nasal channels causes a lodgment of the tubercle bacilli in the back of the pharynx, where they have an excellent chance to develop and introduce themselves into the system. A rhinitis sicca, or even more atrophic rhinitis, unfits the nose entirely for respiration. Adenoids also favor the lodging of bacilli in the pharynx and their passage thence into the lymph current. He thinks that glandular swellings of the neck have become less frequent since adenoids have been so freely removed. If the path of the tubercle bacillus downward is closed up by adenoids, it may make its way to the cranial cavity and produce tuberculous meningitis. He tabulates a number of cases of consumption with particular attention not only to the condition of the nose, but also of the teeth, with special reference to the dry and atrophic conditions produced by our methods of heating in this climate. If we want to treat the consumptive rationally, he concludes, we must begin at the upper air tract.

17. **Mechanotherapy.**—Taylor points out the importance of massage, mechanotherapy, bone setting, etc., and the practice of osteopathy. He thinks the profession has become too critical in regard to drugs, and the public has followed its example, and takes up the more readily with charlatans, who claim to cure without them. Moreover, there are comparatively few of the medical profession who have familiarized themselves with massage and mechanotherapy generally. Our schools of massage are entirely superficial in their training. The European masseur finds our physicians unable to appreciate his skill, hence his attempt to get into independent practice, and the prejudice and rivalry aroused against him. Taylor claims that the field of mechanotherapy is boundless, and it is the duty of the educated physician to learn more of it. He thinks if the medical profession would read half a score of small books thoroughly (after revising their knowledge of the nervous mechanisms) and make practical use of the light thus gained, they would feel little hesitation in going forward to acquire skill in so practical and valuable a branch of therapeutics. The physician can not devote the time required by some of the more laborious and continuous, or routine procedures, but he should supervise the scientific part. He could and should make use of the more delicate manipulations, which are of the greatest value. To illustrate the teachings of the osteopathic schools, he mentions two graduates of Scandinavian massage institutions who came to this country and hearing of osteopathy took a course at Kirksville. Both assured the author that they learned no facts of importance not already known to them. The sphere of manual therapy lies in the ability of medical practitioners to influence centers of organic activity by mechanical stimulation through the vasomotor nerves. They should not abandon well-tried and proven remedies, but in manual therapy, when applied by the physician, there is a prompt and exact method far in advance of all others in the treatment of a wide variety of derangements, not only of the coarser mechanisms, but also of the vital organs.

18. **The Tubercle Bacillus.**—Kime reviews the habitat of various pathogenic parasites, and claims that the natural habitat of the tubercle bacillus is in the cow. He says the conclusion forces itself on us, even from Koch's own experiments, that the cow furnishes the type of soil and tissue best adapted to the production of virulent tubercle bacilli, and the more immediate the transference of tuberculosis from cow to man, the more deadly it becomes, and the more readily it may be transferred back, while cultures many generations removed

from the cow lose much of their virulence, and are comparatively mild in their effects.

19. Nasopharyngeal Fibromata.—The method of treatment of these growths is discussed in general, and King describes a method which he thinks is more quick and effective than others. He makes a high tracheotomy under chloroform anesthesia and inserts a tube. Then with the patient in the Rose position, the head supported by an assistant, and the mouth gag in place, the index and little [middle?] finger of the left hand are introduced into the nasopharynx to ascertain carefully the outlines of the tumor and the position and extent of its implantation. This is of great importance, for as soon as the size and point of origin of the pedicle are made out, the fingers serve as a guide for the insertion of a pair of scissors into the nose on the side most accessible to the pedicle. Scissors are a strong pair, with long handles and short blunt blades, slightly curved on the flat. The long handles offer a strong leverage, so that the toughest tissue can be cut through. The closed blades are introduced carefully along the septum until the point can be felt in the nasopharynx. The instrument is guided by the fingers to the pedicle. With the convexity of the blade uppermost the pedicle is vigorously attacked and divided. As soon as it is felt detached, it can be drawn out by the fingers through the mouth and immediate attention given to checking the flow of blood which gushes copiously from the moment the first cut is made. The use of a gauze pack aided by the natural tendency to spontaneous arrest will check the bleeding in a very short time. The head can then be brought to a level with the table, and if it is made certain that none of the body of the growth remains behind, the tracheal tube can be removed and the wound closed. In this manner the bulk of the growth at least can be removed. If hemorrhage has been excessive the patient should be allowed a few days to recuperate before being subjected to further operation for the complete removal of what may remain behind. Not much time, however, should be lost in attacking the root of the tumor. It should be examined closely by anterior and posterior rhinoscopy. Remaining fragments can be removed under light with snare, cutting forceps or scissors, or destroyed by the use of cautery without further danger of serious hemorrhage. In view of the tendency to recurrence great care should be taken to extirpate as completely as possible and the patient kept under observation for several weeks for new developments. He reports three cases, with details, in which this operation was performed.

20. What the Tuberculous Patient Should Know.—Stevens insists on the tuberculous patient coughing into a handkerchief, not coughing at all in the dining-room, never swallowing the expectoration, using an antiseptic mouth wash before each meal, and the careful cleansing of the hands, avoiding talking if it increases the cough, avoiding spitting into anything excepting a proper sputum receptacle, the thorough disinfection of whatever is soiled by the sputum, abstinence from kissing, taking exercise only under direction and none of a sporting character, taking none if the temperature is abnormal, if there is blood in the sputum or if losing in weight. Always stop before becoming tired, never run or get out of breath and never lift or strain, avoid breathing exercises except those as specifically directed. If the temperature reaches 100 lie down, and if it reaches 101 undress and go to bed in earnest. Spend ten hours in bed each night, and retire early enough to finish your sleep before sunrise. Spend all the time possible in the open air. Keep the windows of the sleeping room open. Protect the head from the direct rays of the sun when taking outdoor rest cure, avoid dust, draughts, crowded and poorly ventilated rooms, and if you catch cold report at once to the physician. If the digestion is good, use a generous mixed diet, taking no food between meals. Forced feeding, if necessary, must be under the direction of a physician. It is not the quantity eaten, but the quantity digested or assimilated that benefits. If not on a full diet, a light luncheon of milk and crackers, malted milk or raw egg should be taken regularly two or three hours after each meal, taking no food within less than two hours of a regular meal. Do not drink milk hastily. Sip it, eating something at the same time. Regularity of meals is essential. Take only such medicines as are prescribed and stop any that disturb the stomach; beware of sleep producers. Throw away any medicines that have been ordered discontinued. The clothing should be adapted to the individual; avoid chilling and overheating; wear nothing that interferes with respiration. Use sensible footwear, and no chest protectors. Unless there is special reason for not doing it, a cold sponge bath or shower bath should be taken each morning, and a full warm bath only once a week, rubbing the skin well with a course towel after the shower or sponge bath. Omit the cold baths during a pleurisy, or after a night sweat, or if the morning temperature is below 97 F., using a dry rub instead. Alcohol, if prescribed in exceptional cases, should be used the same as medicine and with the same care as to dose and time as with other medicines. Smoking should not be indulged in, and chewing should be condemned for sanitary reasons, because it increases the tendency to expectoration. Co-operate with the medical advisor, make a business of getting well. Do not take too many suggestions from outsiders. The less one knows of a subject the more ready he is to advise. Avoid self-experimentation. Do not discuss your symptoms with other patients. If you do not trust your physician, change him.

21. Magnesium Dioxid.—This substance, which is also known as biogen, and zinc oxid, known as dermogen, seems to have a special power of giving out oxygen, and Elias discusses their action. He thinks the pronounced benefit resulting from magnesium dioxid is entirely due to its oxygen quality, and not to its residual magnesium hydroxid. The increased heart action, the rapid elimination of waste products, accelerated tissue oxidation and destruction of pathogenic micro-organisms, all point to the conclusion that it is the oxygen to which these results must be attributed, and not to the magnesium. The latter is an indifferent substance, almost entirely recoverable in the excreta. The utility of magnesium dioxid when introduced into the system, he says, is evidenced by the marked improvement and rapid subjective symptoms induced. This is explained by the fact that an oxygen carrier such as magnesium dioxid breaks down when administered internally and liberates a more active and less irritating gas than oxygen which may be generated by other means.

### Cincinnati Lancet-Clinic.

*December 19.*

22 Anatomy of the Inguinal Region in Its Relation to Inguinal Hernia. W. E. Lewis.
23 The Finsen Light Cure. H. John Stewart.
24 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

### St. Louis Medical Review.

*December 12.*

25 Presentation of Specimen of Radium with Suggestions as to Its Therapeutic Value in Cancer and Other Malignant Diseases. A. V. L. Brokaw.

### Illinois Medical Journal, Springfield.

*December.*

26 *Chorea. L. Harrison Mettler.
27 *Ovarian Dysmenorrhea—Its Treatment by a New Operation. Norman Kerr.
28 Dislocation of the Metacarpo-phalangeal Joint: Irreducible Under Anesthesia, Operation. Homer M. Thomas.
29 Cases Simulating Appendicitis. H. A. Brennecke.
30 Pulmonary Tuberculosis and Its Home Treatment. James L. Lowrie.
31 A Report of Three Medicolegal Cases Involving the Diagnosis of Paranoia. Sanger Brown.

26. Chorea.—Mettler concludes that chorea is not a disease, but only one of a group of symptoms which may be due to various etiologic and pathologic conditions. It is traceable to some irritative factor in all its varied manifestations. The difference between the various choreas depends not so much on the choreic movements as on the associated symptoms of the trouble or disease in which the choreiform phenomena form one symptom. He thinks this is logically proven and demonstrable when one observes carefully the etiology, symptoms, prognosis and treatment of every case. He adds that this is the only way to look on chorea in order

to comprehend it thoroughly, to be able to make a correct diagnosis and apply the best line of treatment.

27. **Ovarian Dysmenorrhea.**—The new operation here described by Kerr consists, after the usual preliminaries of laparotomy, in holding the uterus and ovary forward on the side operated on, and then slitting the peritoneum covering the ovarian vessels, viz., the infundibulo-pelvic ligament parallel to the vessels. The areolar tissue is then stripped from the under surface of the peritoneum so as to include, if possible, any nerve fibers that may be present in this space between the two layers of the fold of the peritoneum above mentioned. After this a ligature is applied at the brim of the pelvis to the ovarian vessels. It also includes the loose tissues which have been stripped from the extraperitoneal surface of the peritoneum. After ligation is completed at this point, the same process is repeated an inch or more further down on the vessel and areolar tissue quite near the outer end of the ovary, after which the part between the ligatures is excised. It is necessary, of course, to repeat the same process on the other side of the pelvis because in these cases the neurotic element is very pronounced and the pain is usually referred to both ovarian regions. He reports cases and gives credit for the suggestion of the operation to Dr. M. L. Harris.

### California State Journal of Medicine, San Francisco.

*December.*

32 *Decapsulation of the Kidney for Chronic Bright's Disease. George Goodfellow.
33 Report of Six Cases of Achlorhydria. Austin V. Miller.
34 Puerperal Septicemia. R. A. Whiffin.
35 *Tuberculosis in Fowls. Archibald R. Ward.
36 The Ductless Glands. W. E. Upton.
37 The Prevention of Perineal Lacerations. Edward N. Ewer.
38 Infectious Pulmonary Edema. Preliminary Report. W. Ophuls.

32. **Kidney Decapsulation.**—In Goodfellow's opinion decapsulation of the kidney for chronic Bright's disease is a perfectly justifiable operation, particularly with patients *in extremis*, and is a safe procedure. Spinal anesthesia is of great value in these cases where general anesthesia can not be given. He reports a case and reviews the experience of others on the subject.

35. **Tuberculosis in Fowls.**—This disease exists rather extensively in large chicken farms, but has not been specially noted on account of the fact that the proprietors count on a certain amount of loss, and have not given their attention particularly to this form of disease. Ward gives the results of his findings, with illustrations. The symptoms are only noticeable in advanced cases; the bird becomes anemic and weakened, the lesions are most frequently shown in the liver and spleen, only rarely in the lungs. Out of thirty postmortems, in only one instance were the lungs involved, and the skin in another. He does not think that it is dangerous as regards infection by ingestion, as the thorough cooking to which poultry is subjected renders the possibility rather remote. It would be of interest to find out whether the eggs are affected; as a rule, tuberculous hens do not lay eggs. The tuberculin test seems to be unavailing in these birds. He believes that the weeding out of tuberculous hens would in a few years eradicate the disease, their short life being favorable for this. It is possible that the weeding out of all chickens that have pale combs and are poor, keeping them separate from the others, would be of great value in this connection.

### University of Pennsylvania Medical Bulletin, Philadelphia.

*November.*

39 *The Surgical Treatment of Facial Palsy. Preliminary Report of One Case. Charles H. Frazier and William G. Spiller.
40 Case of Strangulated Meckel's Diverticulum Complicating Typhoid Fever. Joseph Sailer and Charles H. Frazier.
41 *The Actions of Certain Agents on the Animal Heat Mechanism, with Especial Reference to Morphin. Edward T. Reichert.
42 Address in Obstetrics, Medical Society of the State of Pennsylvania. John G. Clark.
43 Primary Carcinoma of the Vermiform Appendix and the Report of a Case. Charles C. Norris.
44 The Present Conception of Dermoid Cysts of the Ovary, with the Report of a Case of Teratoma Strumosum Thyreoideale Ovarii. Brooke M. Anspach.
45 The Development of the Islands of Langerhans in the Human Embryo. Richard M. Pearce.

39. **Facial Palsy.**—Frazier first reports a case in which after gunshot wound there was complete facial palsy irreparable except by operation. An anastomosis was made of the peripheral end of the facial nerve with the central portion of the hypoglossal. He discusses the different possibilities of anastomosis with the spinal accessory, hypoglossal and glossopharyngeal, the latter being not especially suitable. He remarks that the operation is not exceedingly difficult, but the nerve should be manipulated with extreme delicacy and there should be a minimal number of sutures, all in perfect apposition and aseptic. He recognizes three stages of improvement: 1, The restoration of normal muscle tone which would warrant the operation; 2, the voluntary control over individual muscles, and, 3, complete and perfect recovery, that is, the return of expressional movements, etc. The first can be ordinarily expected, the second is liable to follow. The latter would be more likely the younger the patient.

Spiller discusses the subject from the neurologist's point of view, and thinks that operation affords a bright prospect for the relief of the deformity and facial paralysis, though experience is needed before we can justly estimate its advantages.

41. **Morphin.**—The conclusions of this experimental research by Reichert are that morphin coincidently possesses thermodepressor and thermoaugmentor actions, the former being by far the more important; and that the thermodepressor effects may be preceded or interrupted by thermoaugmentor effects. That the thermodepressor action is exerted, practically solely on the caudate thermoaugmentor center. That the thermoaugmentor action is exerted chiefly on the pontobulbar thermoaugmentor center, and to a very limited extent on the skeletal muscles. That morphin and cocain are direct antagonists in their actions on the caudate center.

### Journal of Cutaneous Diseases, New York.

*December.*

46 *The Present Status of Phototherapy. Frank Hugh Montgomery.
47 A Case of Undetermined Infection of the Skin: Possibly Glanders. J. A. Fordyce and A. D. Mewborn.

46. **Phototherapy.**—Montgomery's article is a very complete statement of the present status of light treatment, and he describes the apparatus and technic, reviewing the results. The idea that the light treatment can be utilized for deep-seated affections receives but little support from his study of the subject, but for superficial disease it is unquestionably of great value. Of all known methods, he says, of treating lupus vulgaris and other forms of cutaneous tuberculosis, phototherapy is the most certain in its action and gives the best cosmetic results. Where the skin is badly pigmented or there are mechanical obstacles such as peculiar or irregular scars, densely infiltrated or hypertrophied areas, or where the disease is so situated, as is usually the case, on a mucous membrane as to be inaccessiblle to pressure and direct radiation, the *x*-rays are the most effective.

### Cleveland Medical Journal.

*November.*

48 *A Few Remarks Concerning the Surgery of the Biliary Passages. Maurice H. Richardson.
49 *Suggestions on the Nature and Treatment of Delirium Tremens. James F. Kelly.
50 Avoidable Causes of Mortality in Tuberculosis in the Southwest. Guy H. Fitzgerald.

48. **Surgery of the Biliary Passages.**—Richardson notices a number of interesting points in regard to gallstone surgery, especially the hardened, almost cartilaginous, condition of the pancreas sometimes observed, the frequent association of abdominal pain with old and extensive adhesions, and the obscure symptoms caused by lesions of the other viscera in the right upper quadrant of the abdomen, such as those following pyloric disease, etc. Sometimes where gallstones are indicated other and quite different conditions are found. He mentions, for instance, a case of pyelonephritis which had never been suspected, another of intermittent hydronephritis, others of kinks and flexures of the pylorus and duodenum. He believes that surgery of the gall bladder will be immensely advanced in the near future, though there are yet many

questions still in suspense, such as when to extirpate the bladder and when not and when to drain the discharge. He has made systematic observations in the course of abdominal operations wherever conditions permitted. He has frequently found gallstones where there were no symptoms. In some cases the gall bladder has been packed with stones. He can also recall cases where failure to examine the right upper quadrant of the abdomen has resulted in operations lower down in overlooking highly important matters. He thinks where the appendix is removed through an one-inch incision it is poor surgery to enlarge the cut, as a rule, for so uncertain an addition to our knowledge of the case. He holds that gallstones are never dissolved or removed by any course of medication, but may remain latent only to be aroused under very unfavorable conditions. He also holds that cholelithiasis is permanently cured by drainage of the gall bladder. Gallstones almost always originate in the gall bladder, though they may be found in the hepatic duct, and sometimes up in the great fissure of the liver. The liability to overlook them by even the most experienced is very great. The most interesting subject connected with the biliary tract is that of the pancreas. He formerly was inclined to look with disfavor on any case of supposed gallstone associated with enlargement of the head of this organ, but has seen instances where his unfavorable prognosis was belied by his experience. Biliary drainage of the gall bladder for pancreatic congestion seems to be beneficial. Clinical observation shows its value, and the cases are multiplying. He thinks it is not too much to hope that through early recognition of impending disaster acute infection of the pancreas with hemorrhage and fat necrosis can be anticipated and avoided by so simple a procedure as temporary drainage of the biliary tract. Looking back on the results at the Massachusetts General Hospital for the last fifteen years, he is impressed with the evils of so-called conservatism in this line of surgery.

49. **Delirium Tremens.**—Kelly's article is noticed editorially.

### Buffalo Medical Journal.

*December.*

51 *The Relation of Fat to Nervous Disease. Bradford C. Loveland.
52 Personal Experience with Puerperal Fever. Charles E. Congdon.
53 The Bladder Troubles of Old Men. William B. Jones.
54 Cystitis in the Female—Case Illustrating Treatment. W. L. Wallace.
55 Various Orthopedic Appliances. Prescott Le Breton.
56 Presentation of a Patient, the Subject of Calculous Formations in the Kidney, Ureter and Bladder. Bransford Lewis.

51. **Fat and Nervous Disease.**—Loveland makes the points that the depositing of fat in the body is under the functional control of the nervous system, and that a careful study of the patient with regard to the question of fat may be of value both in the diagnosis and prognosis. The physician may soon so learn his patient that he can prescribe a diet and tell with reasonable certainty whether he will lose, keep the same, or gain flesh. Lastly, that an increase in flesh may be taken as an index of improvement in acute mania, melancholia and in thin neurasthenics, as well as in tuberculous patients where it has long been recognized as such.

### Journal of Nervous and Mental Diseases, New York.

*December.*

57 Enormous Tumor of the Postero-parietal Region, Weighing Over Half a Pound; Absence of Localizing Symptoms Until Late in the History of the Case; Operation; Death. F. X. Dercum and W. W. Keen.
58 *Studies on the Cerebral Cortex in the Normal Human Brain and in Dementia Paralytica. G. Alfred Lawrence.

58. **Dementia Paralytica.**—Lawrence concludes his article in this issue, reviewing the technic and discussing the results. He finds that the thickness of the various cortical layers is not constant in the same gyrus or even in the different portions of a single section, to say nothing of different cortical regions. From his study of the literature, as well as his own investigations, he is inclined to accept the view of the three-layered type of cell arrangement, excepting, of course, variations in special parts, such as the cornu ammonis for example. The first or superficial layer contains few nerve cells, many neuroglia cells and many, chiefly tangential, fibers. The second, or pyramidal cell layer, includes small, large and giant cells, and the third, or spindle cell layer, includes both the spindle cells and the less numerous irregular polygonal cells. Below these three layers is the subcortical white medullary substance. He finds four principal types of nerve cells: 1. The small rounded nerve cells with few dendritic processes, with rounded nucleus almost filling the body and well-marked nucleolus, so-called karyochrome nerve cells of Nissl's classification. 2. The pyramidal cells of the second layer, of which there are four varieties: small, large, medium and the typical giant pyramidal cells. These can best be designated as stichochrome nerve cells of the somatochrome class in Nissl's classification. 3. The spindle cells found in the third layer contain a very large nucleus with well-marked nucleolus. These are the gryochrome nerve cells of the somatochrome class. 4. The irregular or polygonal nerve cells found in the second and third layers, irregular in shape, with three or more dendritic processes, a large nucleus and well-marked nucleolus. The pathologic changes in dementia paralytica noted by previous observers were all observed by the author excepting vacuolization of the cell protoplasm and pigmentary deposits outside the nerve cell bodies. No vacuolization of the nucleus or extrusion of the same was found and no crystalline or calcareous deposits were made out in any of the cells; no septa were observed penetrating from the thickened pia into the cortex. Multiplication of white corpuscles was not observed, and proliferation of neuroglia cells seems to have existed but to a slight extent in small localized places. He does not mean to say that it may not occur in some cases and be more general. No proliferation of the interstitial network was noted. The pathologic processes were more severe in the central and frontal regions, but extended to a less extent, though still marked, into the temporal and parietal region, the occipital region almost entirely escaping in the case observed. The disease seemed to be a chronic affection of the nerve cells with pigmentary degeneration, necrosis of the cell body, partial or complete, with accompanying involvement of the blood vessels. The relation of the vascular and cell changes to one another and their relation in time is a subject that he thinks requires much more extended investigation before it can be satisfactorily settled.

### Archives of Pediatrics, New York.

*November.*

59 *Discussion on the Relation of the Bacillus of Shiga to the Summer Diarrheas of Children. Simon Flexner, W. H. Park, Henry Koplik, L. Emmett Holt, J. H. M. Knox and W. D. Booker.
60 *Pneumothorax in Children. David Bovaird, Jr.
61 *Chorea: What Is It? Charles J. Aldrich.
62 A Case of Multiple Abscesses of the Lung. Samuel S. Adams.
63 A Report of a Case of Infantile Syphilis. Theron W. Kilmer.
64 Poisoning Due to the Chemical Decomposition of Bromoform. A. L. Oberdorfer.

59. **Summer Diarrhea of Children.**—The discussion here published was opened by Flexner, who gave the facts in regard to the identification of the bacillus found in summer diarrhea of children with the Shiga bacillus, and pointed out in what cases they were likely to be found. He mentioned also that there were two well-defined groups of organisms of the dysentery bacillus, one producing a change in the litmus and one not. One was found that agreed with the ordinary Shiga bacillus, but he thinks more care must be taken in the study of the subject. The future must determine what position the organism occupies with reference to the etiology of summer diarrhea.

Park gave his experience with a dysentery epidemic near New York City in which this Shiga bacillus was found. He thinks it does not occur in the larger proportion of cases of summer diarrhea, and he would expect mucus and blood in most instances where it is found.

Koplik pointed out the complexity of the question. He is inclined to think the Shiga group is a limited class. The larger number of cases are due to other germs such as the butyric acid bacillus and the *Bacillus lactis aerogenes*. Still others are due to the anatomic and physiologic insufficiencies of the intestine to tolerate the irritation from cow's milk, a food not exactly adapted to it. Holt stated that a search for the Shiga bacillus in the Babies' Hospital revealed it in 37 cases out of 112 examined, all of these with symptoms of colitis, mostly acute, with mucus and often bloody stools. The Flexner anti-dysentery serum was used in 8 cases. Two were moribund; in 3 no effect was seen, but in 3 others very striking improvement was apparent.

Knox gave the results of observations at the Wilson Sanitarium in Baltimore and remarked that there was nothing in the character of the stools or pathologic condition at autopsy to differentiate the cases with the Shiga bacillus from the ordinary typical summer diarrhea. He thinks it is quite possible that a large group of both acute and chronic cases will be found due to this organism.

Dr. Booker of Baltimore examined only one case last summer for the Shiga bacillus. It belonged more to the cholera infantum type than to dysentery. Two injections of Flexner's serum did not check the disease, though a slight improvement was noticed after the first. He thinks if we get results from the serum treatment it will be when used in the early stage of the disease before serious anatomic changes have occurred. It has been suggested that the rôle of the Shiga bacillus is to render the intestine more suitable for the activity of other bacteria. If this prove true, the greater the advisability of the early use of the serum.

In closing the discussion Flexner remarked that he agreed with the gentlemen who had spoken of the complexity of the problem, and emphasized that he had not committed himself to any view of the causes of summer diarrheas excepting that this organism occurred in some of them. He is convinced that whatever the Shiga bacillus does it does early, and we have to deal with mixed infections. How much of this complex mixture is a condition of an early infection is an important question. The serum is, of course, experimental. As tested on animals it is very effective and is at least, he thinks, worthy of a trial.

60. **Pneumothorax in Children.**—Five cases of this rare condition are reported by Bovaird. In 2 it was produced by rupture of areas of bronchopneumonic consolidation occurring as complications of measles; in 2 by rupture of a small abscess of the lung, the clinical history of which is not known, and a fifth case which was probably due to a rupture of an emphysematous vesicle. As the latter case was only partial and the patient recovered, the etiology could not be exactly determined. He reviews the literature and remarks that as only 4 recovered out of the 18 cases collected, pneumothorax in children must be considered a very grave complication. With our limited experience we can not lay down a treatment, but the extensive displacement and consequent interference with the function of the heart suggest the advisability of withdrawing air from the pleura, or in the event of failure in this, to make a free incision.

61. **Chorea.**—Aldrich reviews the different forms of chorea, limiting the term properly to the Sydenham type. He describes its course, symptoms, diagnosis, etc. Owing to the absence of characteristic lesions the belief is growing, he says, that the disease is due to irritation of the motor mechanism in the cells of the cerebral cortex by some infectious irritant. Individual predisposition plays a part, and it must be regarded as a disease of neurotic stock, unable to meet the strains of early school life, to withstand the changes of adolescence as well as early pregnancy, in fact, unable to meet anything that lowers the normal physiologic resistance. The cases attributed to fright almost always show on analysis that this is only a climax in the course of a disease already established. Peripheral and reflex irritation, as from worms, eyestrain and adherent prepuce, play no part in the etiology of true chorea any more than poor hearing or ingrowing toe nails.

### Annals of Otology, Rhinology and Laryngology, St. Louis.

*September.*

65 *My Latest Improvements in the Radical Treatment of Chronic Suppurations of the Accessory Cavities of the Nose. Dr. Luc (Paris).
66 *Observations on the Diagnosis of Nasal Sinusitis. Walter J. Freeman.
67 *Diseases and Treatment of the Sphenoid Cells, with Report of Cases and Presentation of Instruments. Robert C. Myles.
68 A Bony Cyst in the Antrum of Highmore. C. G. Coakley.
69 The Microscopical Examination of the Discharge in 100 Cases of Middle Ear Suppuration, with an Analysis of the Results Having Special References to the Presence of Tubercle and "Acid-fast" Bacilli. Wyatt Wingrave.
70 A Case of Thrombosis of the Cavernous Sinuses. Samuel Lodge.
71 *Paraffin Subcutaneously Injected for the Correction of External Deformities—The Dangers to Be Avoided and the Technic. Harmon Smith.
72 Tobacco Nerve Deafness. Wyatt Wingrave.
73 A Case of Acute Otitis Media and Sinus Thrombosis; Mastoidectomy; Excision of Internal Jugular Vein; Serous Meningitis; Exploratory Craniotomy; Death; Autopsy. Edward B. Dench.

65. **Suppurations of Accessory Cavities.**—In the beginning of his article Luc declares his agreement with Lermoyez in his statement that surgical treatment ought to be limited to chronic forms of the disease. In these chronic forms we should distinguish between the properly called suppurative sinusitis, due to primitive infection, and the maxillary empyema in which the pus does not originate in the cavity but simply accumulates in it. In the latter, a simple washing of the cavity may sufficiently relieve the conditions. Luc does not consider it advisable to adopt the radical operation in chronic abscess of the antrum without previously having attempted to cure it by washings if a puncture has been made in the inferior meatus. As regards the Luc-Caldwell operation he admits Caldwell's priority, while claiming independence in the origin of the method. He mentions the Ogston-Luc method for frontal abscess pointing out certain defects in unfavorable cases due to the excessive size of the sinus as compared with the outlet provided, and mentions with approval the Killian operation for these cases. He has no personal experience with an isolated ethmoidal suppuration, and consequently has treated it usually in connection with frontal and maxillary disorders. The ethmoidal labyrinth is attacked by him by a new method, which dispenses with the socalled nasal curette and substitutes a special forceps. He describes the methods of using it, first attacking the middle turbinate to make way for the opening of the ethmoidal cells. The choice of the route to the sphenoidal cavity is according to the spaciousness or narrowness of the nasal fossæ and the coincidence or non-coincidence of an empyema in the maxillary antrum, the latter being the safest and easiest way to the sinus. When there is nothing more than the middle turbinate and the posterior ethmoidal cells in the way the method used in intranasal curetting of the ethmoidal cells can be employed with advantage. Only when there is an abnormal resistance of the anterior wall of the cavity is it advisable to have recourse to a perforator and enlarge the opening thus made by a cutting forceps. The coincidence of an antral empyema with the sphenoidal suppuration settles the question as to the mode of reaching the sphenoidal cavity. The antral route is the best in such cases.

66. **Nasal Sinusitis.**—Freeman insists on the use of all methods of examination and notes the embarrassment frequently caused by failure of the transillumination tests. The presence of polypi and edema of the mucosa in the neighborhood of the sinus ostium should call our attention to the nasal sinus. No sign has been as useful to him as the discovery of pus flowing over the upper surface of the posterior end of the inferior turbinate. He has frequently been able to make a diagnosis by odors, such as those of sour pus and of sulphuretted hydrogen. The continued presence of foul odor of the antrum secretion almost unerringly points to the teeth as the cause of inflammation and the presence of discolored molars or bicuspids should be viewed with suspicion, and the tests of heat and cold and transillumination be applied. In washing the antrum through the normal opening he has found it of use to explore first with a delicate cotton-wound probe, and after the opening has been detected and the correct curve attained, to fashion the curve of the canula after it. He has devised a special irrigation canula which by heating can be fashioned to any curve and will often bend and conform to the irregularities. He has found it more convenient than the metal tube, and very serviceable in every way. As regards ethmoidal disease

from grippe he has never seen any case of this origin which did not recover in a few weeks. He does not believe that chronic suppurations of the ethmoidal cells exist to the extent that certain statistics would indicate. He warns against turbinectomy, and thinks that before thorough investigation, before sacrificing the middle turbinate it is due to the patient to suspect the antrum and try irrigation. Ethmoidal suppuration is frequently diagnosed and antrum disease overlooked. Lichtwitz' statistics are quoted in this connection. He thinks attention is being directed too much to the ethmoids and the antrum too much disregarded. The assertion of Schaffer and others that the formation of crusts in the pharyngeal vault suggests sphenoidal disease is, he thinks, misleading. Vertigo and pain at the occiput, deep in the eyes and in the ears, may be caused by disease of any one of the sinuses and pain across the bridge of the nose, considered so characteristic of ethmoid disease, he has repeatedly caused by manipulations in the sphenoid cavity. The close proximity of the fifth nerve makes reflex pain at any part of the head possible. He has had cases where the frontal or the antrum were positively the only cavities involved, in which there was intense earache sometimes of the corresponding side and sometimes of both. Any great reliance on the symptom of pain, therefore, is liable to be misleading. As regards ocular manifestations, he quotes Posey, who says that general symptoms of asthenopia, not relieved by glasses, should direct attention to the nasal sinuses. When drainage is abundant and the turbinate swollen, positive diagnosis of the special cavity is impossible, but by contraction by cocain and repeated cleansing by anterior and posterior syringing one can usually arrive at a fairly accurate diagnosis by watching the pus appear at its special locations. The washing should be done so that the water is caught in a black basin. The use of suprarenal extract is not advisable in sinus suppurations as the blanching of the surface prevents the recognition of small amounts of secretion. A point he has found of value in carrying out the Fränkel and other position tests is to have the patient close the opposite nostril and sniff and blow alternately. This draws the pus from the sinus. Where there is difficulty in detecting the cavity the patients should be examined early in the morning before the sinus has emptied, and late in the evening when the sinus has had a chance to refill. The morning is favorable for detecting pus from the frontal and ethmoids, the evening for secretion from the antrum and sphenoid.

67. **Sphenoidal Cell Disease.**—Myles holds that the sphenoidal cells are more often diseased than we have believed. When muco-pus is seen in the superior meatus or between the middle turbinate and the septum, the probe and cleansing swab should be used until the secretion is traced to its origin. Sometimes the posterior half of the middle turbinate will have to be removed to investigate the region, and he thinks we are often too conservative in not removing the body early and more frequently. When a diagnosis has been made and the character of the case approximately determined, we should endeavor to make an opening 10 to 15 mm. in diameter in the anterior superior wall, commencing the section at the lower border of the natural opening and extending downward in a vertical line, rather close to the septum. He illustrates the instruments for this purpose, all made with guards, and reports cases.

71.—The points of this article were given by the author in The Journal, Sept. 26, 1903, p. 773.

### Ophthalmic Record, Chicago.

*November.*

74 *A New Advancement Operation. G. C. Savage.
75 Episcleritis. Don M. Campbell.
76 Two Unusual Forms of Keratitis, Probably Rheumatic in Origin. Howard F. Hansell.
77 Notes from the Clinic of Dr. Galezowski. E. C. Ellett.
78 Deficient Dynamics of the Extra-ocular Muscles. C. W. Le Fever.

74. **A New Advancement Operation.**—Savage's claim for his operation is that it is done without cutting the tendon. He also describes a special method of taking scleral stitches. He makes: 1, a cut through the conjunctiva parallel with the plane of the equator, a short distance behind the tendon insertion, not including the capsule of Tenon. 2. An opening through the Tenon capsule just below the border of the tendon, through which he passes a large strabismus hook, beneath the tendon. When the point of the hook reaches the structures above the tendon a snip should be made in the capsule so as to allow it to emerge. 3. The tendon is lifted by the hook so as to make the taking of the stitch through the muscle and capsule easy, without dipping the needle into scleral structure. The stitch is done as in plain sewing and the puncture and counter-puncture should be one-eighth to three-sixteenths of an inch apart, the conjunctiva being held back with forceps by an assistant. The loop, consisting of the middle of the suture which is armed with two needles, is beneath the central part of the muscle at just that distance behind the tendonous insertion indicated by the operator's judgment. 4. The forceps and hook having been removed, the operator taking the fixation forceps in his own hand, seizes the tendon at its insertion so as to hold the eye steady while passing two needles into the scleral tissue, the anterior conjunctival flap being held forward by an assistant. Either needle may be passed first. The points of passage are chosen with the view of not changing the plane of action of the muscle if there is no cyclophoria, or of changing it if there is. In the former case one needle is passed just as far below the plane of the horizontal meridian as the other is to be passed above this plane. The lower needle should be held parallel with the plane of the equator and well behind the canal of Schlemm. The puncture made below and the counter-puncture made above should include only a narrow band of scleral fibers and the dip of the needle into the sclera should not be too deep. A similar vertical stitch above the horizontal plane should be taken with the other needle. The space between the two vertical stitches should be as broad as the stitch previously taken in the muscle, and the one scleral stitch should be as far below the horizontal plane as the other is above. After the scleral stitches the two needles should be passed through the anterior conjunctival flap. Lastly, he ties the suture over the silver suture plate devised by Dr. G. H. Price of Nashville. The two needles having been passed through the two holes in the suture plate are now removed and the surgeon's knot is tied, but not until that part of the muscle through which the loop was passed has been drawn as far forward as necessary, usually up to the scleral stitches. He says since this part of the muscle can not be drawn a greater distance in advance of the tendon insertion than the distance between the loop of the suture and the tendon inserton, it becomes evident that the muscle stitch should be the same distance behind the insertion of the tendon as the scleral stitches are in front of it. The folded muscle and tendon lie flat and the posterior conjunctival flap is drawn forward nicely. He has not seen this operation described elsewhere.

### New Orleans Medical and Surgical Journal.

*December.*

79 The Effects of Hypertrophy of Pharyngeal Tonsil on the General Health. W. Scheppegrell.
80 *Hyoscin Hydrobromate in the Treatment of the Morphin Habit. Louis Abramson.
81 Some Practical Points in Chloroform Anesthesia. T. E. Schumpert.
82 Some Experience with Diphtheria and Its Treatment. O. M. Patterson.

80. **Hyoscin Hydrobromate.**—Abramson advocates the use of hyoscin hydrobromate injections in cases of morphinism. He believes in the use of tonics, etc., for some time after the morphin has been finally withdrawn and the effect of hyoscin has passed away.

### Brooklyn Medical Journal.

*December.*

83 The Legal Status of the X-ray. W. W. Goodrich.
84 *A New Suggestion in the Treatment of Uterine Carcinoma by the Combined Use of Finsen Light and Roentgen Ray. George G. Hopkins.
85 Subpectoral Abscess. Russell S. Fowler.
86 Palliative Treatment of Cancer of the Cervix, with Report of Cases. Walter B. Chase.
87 *Peritoneal Adhesions in the Pelvis. Henry C. Keenan.

84. **Uterine Carcinoma.**—Hopkins pleads for the treatment of uterine carcinoma by the combined use of the Finsen light and the Röntgen ray; one hour exposure of the former and five or eight minutes of the latter is a good proportion. This has given him excellent results without causing any injury. He

describes his technic, using the ordinary bi-valve speculum if the vagina is not involved, protecting the lateral walls with tinfoil. While most of his cases have been pretty far advanced the results have been such as to encourage him with this treatment.

87. Peritoneal Adhesions.—In pelvic peritoneal adhesions Keenan would advise laparotomy in pus cases, but in cases of post-operative adhesions a thorough course of medical treatment, including massage, should be given before asking the patient to submit to the uncertain results of a second operation. He thinks we need more detailed information as to the remote results in these cases so as to form a better idea of the course of treatment.

### Medical Sentinel, Portland, Ore.

*November.*

88 Feeding of Infants. George Collister.
89 Puerperal Infection, Its Origin, Prophylaxis and Treatment. H. A. Castle.
90 The Treatment of Summer Complaint of Children. B. L. Steeves.
91 Gastric Ulcer. E. F. Root.
92 The Romance of Medicine. J. C. Sullivan.

### Archives of Pediatrics, New York.

*December.*

93 *Report on the Results with Different Kinds of Pure and Impure Milk in Infant Feeding in Tenement Houses and Institutions of New York City: A Clinical and Bacteriologic Study. Wm. H. Park and L. Emmet Holt.
94 Two Cases of General Gonococcal Peritonitis in Young Girls Under Puberty: One Simulating Appendicitis, Operated On. W. P. Northrup.
95 Leucoderma of Five Years' Duration in a Boy Aged Eleven Years. R. Barclay Ness.

93.—See abstract in THE JOURNAL xli, ¶ 2, p. 1556.

### Medical Standard, Chicago.

*December.*

96 Classification and General Etiology of Nephritis. Arthur R. Elliott.
97 A Study of Fatigue in Gastric Muscle. Fenton B. Turck.
98 Observations on Tuberculosis in Colorado. W. F. Church.
99 The Limitations of the Practical Value of Urethroscopy. Louis E. Schmidt.
100 The Mechanism of the Muscles of the Larynx. J. F. Burkholder.
101 The Joys of Intellect: A Sequel to "The Penalty of Genius." Ernest Crutcher.

### Bulletin of the Kentucky State Medical Association, Louisville.

*December.*

102 Typhoid Fever. E. N. Hall.
103 The Value of Widal's and Ehrlich's Tests in Typhoid Fever. Orville A. Kennedy.
104 Typhoid Fever; Its Treatment. Milton Board.
105 Some Reasons Why We Should Use Antiseptics in the Treatment of Typhoid Fever. J. M. Peck.
106 The Sequelæ of Typhoid Fever. John A. Ouchterlony.
107 Treatment of the Depraved State of System Incident to the Drinking of Contaminated Water. D. G. Simmons.
108 Gastric Neurasthenia. John H. Blackburn.

### Woman's Medical Journal, Toledo.

*October.*

109 The History of Medicine. Marcel Baudoin.
110 The Immediate and Remote Effects of Eyestrain. Mary E. Bates.

### New York State Journal of Medicine, New York.

*December.*

111 Etiology and Pathology of Typhoid Fever. G. Scott Towne.
112 Complications and Prognosis of Typhoid Fever. George F. Comstock.
113 Medical Treatment of Typhoid Fever. John F. Humphrey.
114 Hydrotherapy in Typhoid Fever. Frederick J. Ressegue.
115 *The Influence of the Municipal Milk Supply on the Deaths of Young Children. George W. Goler.
116 *The Causes of Failure Following Operation for Nephroptosis. Augustin H. Goelet.
117 The Treatment of Compound Fractures. Vacil D. Bozovsky.

115.—Ibid., p. 107.

116.—Ibid., p. 1108.

### Mississippi Medical Record, Vicksburg.

*December.*

118 Malarial Hemoglobinuria. J. B. Anderson.
119 Some Points in the Early Diagnosis and Treatment of Tuberculosis. W. J. Hunnicutt.

### Journal of Advanced Therapeutics, New York.

*December.*

120 *The Effects of the Secondary Static Currents in Removing Albumin and Casts from the Urine, with Reports of Cases. Boardman Reed.
121 The Therapeutics of the Continuous Current. (Continued.) Margaret A. Cleaves.
122 Report of a Case of Carcinoma of the Breast Treated by Massive Mercuric Cataphoresis. G. Betton Massey.
123 High Frequency Currents in the Treatment of Certain Diseases. Curran Pope.
124 Radium. Samuel G. Tracy.

120.—Ibid., p. 977.

### Fort Wayne Medical Journal-Magazine.

*November.*

125 Preventive Medicine and the Relation of Boards of Health to the Regular Physician in Its Application. A. H. Macbeth.
126 The Increase in Neuropsychopaths; with a Method Looking to Their Relief. Charles R. Dancer.
127 Puerperal Nephritis. L. Park Drayer.

### New Yorker Medicinische Monatschrift, New York.

*October.*

128 Dermatologie als Specialitat und die practischen Aerzte. H. G. Klotz.

### Medical Times, New York.

*December.*

129 Chronic Peritonitis in Children. George R. Wilson.
130 A Study of Hypnotics. A. M. Leonard.
131 The Use of Venesection in Proper Cases. William Wormley.
132 The Private Care of the Insane. M. E. Fitch.
133 Membranous Stomatitis—Complicating Pneumonia. Eight Cases Reported. J. M. Frazier.
134 Suggestive Therapeutics, with Report of Its Action in a Case. C. H. Dixon.
135 Trachoma. James M. Crawford.

### Journal of Medicine and Science, Portland, Me.

*November.*

136 Gonorrheal Affections of the Mucous Membranes. James E. Willing.
137 Some Historic Data in Preventive Medicine. N. J. Gehring.

### Mobile Medical and Surgical Journal.

*November.*

138 Antiseptic Inhalation Treatment of Phthisis. M. M. Saliba.
139 The Use of Nature's Forces in Correcting Retrodeviations of the Uterus. R. R. Kime.
140 Retroversion of the Uterus—Is It a Symptom or Disease? S. W. Purifoy.
141 Intestinal Anastomosis by Means of McGraw's Elastic Ligature. W. T. Henderson.
142 Education Against Pulmonary Tuberculosis. Claude C. Pierce.

### Transactions of the Chicago Pathological Society.

*October 12.*

143 Christian Fenger as a Pathologist. E. R. Le Count.
144 A Cardiac Anomaly: An Elongated Auricular Appendix. J. P. Spooner.

### Carolina Medical Journal, Charlotte.

*November.*

145 Hookworm Disease. C. A. Julian.
146 The Influence of Alcohol in Heredity. A. W. Moye.
147 How to Prevent Malaria. Hugh B. Hoyle.

### Toledo Medical and Surgical Reporter.

*December.*

148 Renal Elimination. R. C. Longfellow.
149 Handwriting as an Index to Character and Mentality. Lewis H. Clement.
150 Some Suggestions in X-ray Work. Harry Dachtler.

### American Medical Compend, Toledo.

*December.*

151 Can an Ophthalmic Examination Aid the Life Insurance Examiner in His Work? George F. Suker.
152 *Handwriting as an Index to Character and Mentality. Lewis H. Clement.

152.—See also title 150 above.

### Alabama Medical Journal, Birmingham.

*December.*

153 In Memoriam William E. B. Davis, M.D. L. S. McMurtry.
154 The Treatment of Uterine Cancer with the Roentgen Rays. Bernard Wolff.
155 The Digestive Ferments. W. S. Sanders.
156 Placenta Previa, with Report of Three Cases. H. R. Coston.

### Maryland Medical Journal, Baltimore.

*December.*

157 Tetanus. A. Aldridge Matthews.
158 Infectious Diseases from a Public Health Standpoint. C. Hampson Jones.

### Southern Practitioner, Nashville, Tenn.

*December.*

159 The Diagnosis and Operation for Gallstones. William D. Haggard.
160 Constrictions and Dilatations of the Ureter Demonstrated by Paraffin Casts. Byron Robinson.
161 Anchylostoma Duodenalis or Hookworm Disease. Louis Leroy.

### Medical Review of Reviews, New York.

*November 25.*

162 The Protection of the Milk Supply of Cities. Ernest J. Lederle.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal, London.

*December 5.*

1 *Means for the Prolongation of Life. Hermann Weber.
2 *The Treatment of Some Acute Visceral Inflammations. D. B. Lees.
3 *On a Dysentery Antitoxin. Charles Todd.
4 *On Total Extirpation of the Stomach with a Record of an Unsuccessful Case. B. G. A. Moynihan.
5 A Case of Double Perforating Gastric Ulcer. L. Lovell Keays.
6 Excision of a Perforated Gastric Ulcer—Recovery. E. Oliver Ashe.
7 Sleeping Sickness and Trypanosomiasis in a European; Death; Preliminary Note. Patrick Manson.

*December 12.*

8 *Cancer and Its Origin. Henry Morris.
9 *The Parasitic Theory of Cancer. H. G. Plimmer.
10 *The Behavior of Cancer Within Nerve and Trophic Areas. G. Lenthal Cheatle.
11 *Nature and Physiological Action of Radium Emanations and Rays. Dawson Turner.
12 *Radium and Its Therapeutic Effects. John Macintyre.
13 *On the Treatment of Cancer. Lovell Drage.
14 *Paraffin Cancer. Robert Kirk.
15 *The Possible Association of the Consumption of Alcohol with Excessive Mortality from Cancer. Arthur Newsholme.

1. **The Prolongation of Life.**—The advice of Weber for the prolongation of life is summed up in moderation in eating, drinking and physical indulgence, securing of pure air out of doors and in, keeping of every organ of the body as near as possible in constant working order, daily regular exercise in all weathers, supplemented in many cases by breathing exercises, climbing and walking tours, early going to bed and rising and restricting of sleep to six or seven hours, daily baths according to individual conditions, cold or warm, or warm followed by cold, regular work and mental occupation, cheerfulness, employment of the great power of the mind in controlling passions and nervous fears and strengthening the will in carrying out whatever is useful and checking the craving for stimulants, alcoholics and other injurious agencies.

2. **Pneumonia.**—Lees' third lecture describes the physical examination and treatment. As soon as the condition is recognized he would put hot water bottles to the feet, ice bags over the suspected part of the lungs, use cleansing of the mouth and fauces and spraying the throat every three hours for the first two days. Infection often starts from the mouth. The diet should be milk, or milk and barley water, given every two hours, and water as desired. The patient should be seen a second time the same day and any increase of dullness be treated by local application of ice. This may arrest the disease. The temperature will then be lower the second day and the air will enter the suspected area more freely. The pulse rate will be less frequent, but care should still be exercised to find any additional focus and meet it. If the attempt is unsuccessful the area of dullness will be larger, and inspiratory crepitation will be heard. It is desirable to give two or three grains of calomel followed by a Seidlitz powder. If sufficient evacuation is obtained the purgative should not be repeated. The third morning the physical signs must be carefully determined and local applications carefully arranged to meet the conditions. On the third evening, unless there has been a marked improvement it may be advisable to apply a leech an hour before sleep, thus relieving the right heart, and then give a considerable quantity of water to satisfy the thirst and help elimination. If the patient does not come under treatment until the fourth day after the attack he will probably be in considerable distress, dyspnea, cyanosis, headache and dulness in the right auricle may be from 2 to 2½ finger breadths in the fourth space. This should be ascertained at once before an attempt is made to discover the amount of disease in the lungs. A larger number of leeches should be used than would have sufficed before. Venesection is often preferable, four ounces for a young adult, eight ounces for a strong man. Both lungs should then be carefully examined and ice bags applied and oxygen administered. On the fifth day if the treatment has been vigorous, leeches and ice give often a practical improvement, but severe cases can not be yet controlled. It may be advisable to limit the fluid given to avoid strain on the right heart and to give only malted milk powder dissolved in milk. It is desirable to again examine the right heart on the evening of the third day and if the condition of the heart is dubious, let the decision be for leeches again. If the patient has slept well and the right auricle does not measure more than two finger breadths, the leeches may be discontinued. If the patient has reached the fifth or sixth day of his illness, and neither bleeding nor ice bags have been employed, the symptoms are often very severe, the distress great and the outlook gloomy. The prognosis depends on the age, previous condition of health, the intensity of the infection and the action of the medical attendant. The first necessity is venesection and hypodermic injections of strychnin in three minim doses every four hours. This will doubtless cause improvement unless the case is a bad one, and he advises early consultation. In the case of an infant or an adult older than thirty years the danger to life is great and judicious treatment required from the very first. Pneumonia in adults usually ends with a rapid fall of temperature and a slowing of the pulse. In a child the subsidence is apt to be more gradual. It is necessary to watch for the quick diminution of temperature, especially in children. Ice bags should be gradually removed and the last taken off when the thermometer marks 100 F. There is a tendency to collapse in crisis, which must be kept in mind, and ice bags might be injurious. The crisis is often preceded by a remission of temperature that lasts only a few hours, hence it is well to watch the temperature. If it rises to 101 a single icebag should be used, and if to 103, two of them, the nurse carefully observing the case. If the temperature shows a persistent tendency to keep above the normal after the crisis, empyema should be suspected. The danger of overlooking such a condition is great and should always be kept in mind, and an exploring needle used if there is any room for doubt. Pleurisy may be treated with ice bags to the chest. The lecture also discusses the subject of appendicitis, and acute nephritis, giving illustrative cases.

3. **Dysentery.**—Todd, in this preliminary communication, describes the discovery of a dysentery antitoxin produced by growing the dysentery bacillus in a somewhat mildly alkaline broth. Certain animals, notably horses and rabbits, are highly susceptible to this toxin, which is fairly stable, though destroyed by an exposure to a temperature of 80 C. for an hour, but not at 70 or a lesser temperature. When injected into suitable animals, such as the horse, it gives rise to a powerful antitoxin. The combination of toxin and antitoxin *in vitro* does not take place immediately, but requires a certain time, and the rate of combination varies with the temperature.

4. **Gastrectomy.**—Moynihan reviews the records of this operation, which was first performed in America, and reports an unsuccessful case. He thinks that complete extirpation of the stomach is not merely brilliant surgical gymnastics, but has its proper place in surgery.

8. **Cancer and Its Embryonic Origin.**—Morris discusses the various theories of cancer and criticises and rejects the parasitic theory. The one he favors is that of Cohnheim, as modified by Durante, Nicoladoni, Ribbert and Senn, namely, the existence of congenital matrices of embryonic cells as well as postnatal formations, the maintenance of these foci and their arousal into activity from various causes. He goes at length into arguments in favor of this tumor-germ theory which escapes the objection raised against the local and constitutional theories and accounts for various phenomena, such as the transformation of benign into malignant tumors, better than the parasitic. It convinces us, he says, of the local origin of cancer and the curability of it if taken early.

9. **The Parasitic Theory of Cancer.**—Plimmer takes the opposite view, reviews the literature, his own researches and those of others and maintains that the parasitic theory can not be put out of consideration, for it offers the best explanation. He asserts that the clinical course of the disease, its beginning in one spot, its extension, to different parts by lymphatic or blood routes, the cachexia out of all proportion to the extent of the disease, the spread by contagion, occurrence in certain parts of the body and its return after years

of quiescence drive us to the parasitic theory. He also thinks that it offers the only hopeful outlook. The arguments that he brings up for it are the localization of cancer in certain moist and wooded districts, and in certain dwellings, the objective signs, the bodies found by himself, Gaylord and others and the inoculation experiments from man to animals and animals to animals, etc.

10. **Cancer and the Nervous System.**—Cheatle holds that he has proved a direct relation between cancer and the nervous system; that its spread and limitation to the skin and muscles bears a practical relationship to the presence of nerves and that the absence of nerves where normally they previously existed bears a marked relation to the limits of cancer. His article is very fully illustrated, especially as regards the nerve distribution of the areas occupied by rodent ulcer.

11. **Radium.**—Turner describes the properties of radium showing that it gives out a radio-active emanation and three kinds of rays: that it keeps itself at a higher temperature than its surroundings and emits heat at an estimated rate of about 100 calories per gram per hour. It is in its behavior antagonistic to some of the fundamental physical laws. The emanation is of the nature of a luminous gas, which can be condensed by intense cold and which imparts radio-activity to objects in its path; more than two-thirds of the heating effect of radium is due to this emanation, and 1 c.cm. would probably instantly melt down the glass tube which contained it. The *a*-rays consist of a stream of positively charged particles of mass about twice that of the hydrogen atom and projected with a velocity of about 20,000 miles a second. They have little penetrative power. The *b*-rays appear to resemble the cathode rays of a Crooke's tube, negatively charged, more penetrating than the *a*-rays and consist of particles of about 1/1,000 of the mass of a hydrogen atom and are powerfully actinic. The *g*-rays, or the gamma rays, are the most penetrating of all, and evidently resemble the Röntgen rays from a hard tube. Together with these qualities radium seems to manufacture the gas helium. With these physical qualities he then notices the therapeutic possibilities such as the suggestion of Mr. Soddy, that a consumptive patient should inhale the emanation so as to bring the remarkable agent in contact with the diseased lung. A few milligrams of radium bromid may be placed in water in a suitable inhaler and the emanation drawn into the lungs, but he gives warning against using such a remedy without previous medical sanction. Owing to the property the emanation has of imparting radio-activity, the effect of the inhalation would probably continue for a considerable time, for the air-passages will become radio-active. The radium rays have been found to be bactericidal with long exposure. The micro-organisms do not appear to be very susceptible, but it is dangerous to human tissue; one can not carry radium in one's pocket without bad effects. The effects of the rays on mice have been found to be fatal on the fourth or fifth day, the skin and brain being the most affected. The partially blind seem to be able to perceive by radium. The chief physiologic effects are summed up in the effects on the skin producing inflammations and ulcers, effects on the nervous system producing paralysis and death and the luminous effects produced in the partially blind. He thinks if it were possible to obtain radium in large quantities it would do away with the bulky *x*-ray apparatus, and if we could isolate it so that its effects would only be directed in useful ways we could light and heat our houses and run our ships with moderate quantities of the element.

12. **The Therapeutic Properties of Radium.**—Macintyre finds that the therapeutic action of radium has been mostly shown in lupus and rodent ulcer, but is useful in the same class of cases as is treated by the *x*-rays, Finsen light and high frequency currents. Experiments so far do not justify a comparison between the salts of radium and other agents. There is need of further investigation into its physiologic and other properties.

13. **The Treatment of Cancer.**—Cinnamic acid has been employed by Drage in the treatment of cancer by injection. Four cases are reported. The idea was to produce a leucocytosis and a secondary fibrosis of the tissues. These can usually be produced in pulmonary tuberculosis, but are more difficult in cancer. He claims the treatment is based on sound principles and that it has a future. He also uses another material, which he does not name, but promises to do so. It would seem that while the main growth was prevented from invading the adjacent tissue it was not completely checked.

14. **Paraffin Cancer.**—Kirk has noticed the frequent occurrence of epithelioma in workers in mineral oil. He thinks it is accounted for by the irritation produced. Such growths are less frequent than formerly on account of the use of different processes of purifying the shale from which the oil is produced. This is now done by superheated steam.

15. **Alcohol and Cancer.**—Newsholme analyzes the statistics of the United Kingdom Temperance and General Provident Institution which has its special departments for abstainers and non-abstainers. He finds that the latter furnished a far greater proportion of deaths from all causes, also from malignant diseases. The death rate from all causes of the three years 1891, 1896 and 1901 was 17.13 among abstainers and 23.52 per 1,000 lives among non-abstainers, while the death rate from malignant diseases was .95 among the former and 1.32 per 1,000 among the latter. In other words, if the death rate among non-abstainers in each instance be stated as 100 that of abstainers from all causes is 72.8 and from cancer 72. The various aspects and conditions which might modify the figures are discussed and the general results appear unchanged.

## The Lancet, London.

*December 5.*

16 *Continuous Local Infection. Richman J. Godlee.
17 A Patient with Mitral Stenosis. Henry Waldo.
18 On the Present Treatment of the Enlarged Prostate. C. Mansell Moullin.
19 A Case of Chronic Intussusception; Excision of 42 Inches of Small Intestine; Recovery. F. C. Wallis.
20 Adaptation and Compensation. G. A. Gibson.
21 A Case of Invasion of the Cauda Equina by Tumor with Demarcation of All the Sensory Root Areas of the Lower Limbs. Charles R. Box.
22 *On Albuminuria as an Accompaniment of Diabetes Mellitus. (Continued.) F. W. Pavy.

*December 12.*

23 Cancer and Its Origin. Henry Morris.
24 *Antituberculous Serum and "Vaccine." Alexander Marmorek.
25 *Inoculation with Haffkine's Plague Prophylactic; a Review of 30,609 Cases. Charles E. P. Forsyth.
26 Some Observations on Over 6,000 Inoculations Against Plague. J. W. Miller.
27 Symptomatic Parotitis Following Strangulated Hernia. Frederick B. Jefferiss.
28 Eosinophilia in Bilharzia Disease and Dracontiasis. Andrew Balfour.

16. **Continuous Local Infection.**—Godlee notices certain conditions of chronic infection due to a suppurating appendix, and more especially those from pyorrhea alveolaris and reports a case illustrating what the latter lesion may produce and what it may simulate. Other causes of systemic infection are tuberculous disorders, such as absorption from tuberculous glands, systemic poisoning from leucorrhea, etc.

22. **Albuminuria and Diabetes.**—Pavy's article is continued from a former number, and the case reports are continued, illustrating the effect of the excessive use of alcohol in connection with diabetes. He says a moderate use of it may be beneficial, but an excess aggravates the diabetes and invites damage in which the kidney participates. The albuminuria which occurs in connection with the diabetes he points out may exist for a long time without leading to any symptomatic indication of its presence. Its presence, therefore, is not to be looked on as affording ground for apprehension in the same manner as when occurring under other circumstances.

24. **Antituberculous Serum and Vaccine.**—This article has been noticed editorially in THE JOURNAL, xli, p. 1479.

25. **Plague Inoculation.**—Forsyth gives the result of the use of Haffkine's plague prophylactic in over 30,000 cases showing the advantages of this measure. Both classes, the inoculated and uninoculated, lived under the same conditions. The death rate per cent. was only .22 among the inoculated but was 2.6 against the uninoculated. That it was not more effective he thinks is due probably to the inefficiency of the methods of vaccination, the subjects desiring to get along with as little trouble as possible. He criticises the inefficiency and half-hearted

measures that have been undertaken in India and believes with a proper appreciation of inoculation and common-sense methods of disinfection and segregation the disease may be stayed.

### Journal of Tropical Medicine, London.

*December 1.*

29 Dysentery. E. E. Waters.
30 The Effect of Drainage and Other Measures on the Malaria of Klang, Federated Malay States. Malcolm Watson.
31 Some Observations on Tinea Imbricata, Yaws, and the Treatment of Dysentery. Raoul De Boissiere.

### Presse Médicale, Paris.

32 (II, No. 93.) La médication phosphorique dans la psychasténie. A. Martinet.
33 Bloodless Treatment of Fractures of Patella, Etc. Chaput.—Traitement des fractures de la rotule et de l'olécrane par la methode non-sanglante.
34 Appareil fixateur pour la confection des plâtres pour coxalgie (extension apparatus for applying casts). P. Desfosses.
35 Méthode de différenciation rapide des albumines de l'urine. Mérieux (Lyons).
36 (No. 94.) *Forme pseudo-méningitique du syndrome d'insuffisance surrénale aigue. E. Sergent.
37 La ponction lombaire dans les complications endocraniennes des otites. Chavasse and Mahu.
38 (No. 95.) L'action de l'iode. L'iode et le tissu lymphoide. M. Labbé and Lortat-Jacob.
39 L'ankylostomasie en France. J. P. Langlois.
40 (No. 96.) La balnéation froide dans le traitement des synovites crépitantes (cold hydrotherapy). P. Derocque.
41 La suppression du cristallin transparent dans le traitement de la myopie. A. Trousseau.
42 Etat réticulé des valvules sigmoides du coeur chez l'homme (reticulation of heart valves). C. Garnier.

36. **Acute Insufficiency of the Suprarenals.**—Sergent published a description of this syndrome in 1899. He now reports 2 more cases with necropsy which corroborate the existence of a pseudo-meningitis originating in suprarenal insufficiency. There had evidently been a chronic affection of the suprarenals in each case, clinically latent, until fanned into a flame which proved rapidly fatal. One patient was a young woman, the other a man of 32. The symptoms suggested intoxication from the sudden suppression of the suprarenal functions. The syndrome may simulate also acute dyspepsia, poisoning, peritonitis, or cholera. The combination of pains in the epigastrium, anorexia, vomiting, extreme prostration and progressive emaciation, arterial hypotension and tachycardia indicated the suprarenal origin, but other symptoms such as the trigger attitude, the instability of the pupils, photophobia and pain on pressure of the eyeballs, cutaneous hyperesthesia, a plaintive cry and tardy headache, indicated meningitis, notwithstanding the absence of contractures, of Kernig's sign, and of the meningitis stripe, with the retention of consciousness. The necropsy disclosed that there was no meningitis, but merely a pseudo-meningeal reaction, a suprarenal encephalopathy. He calls attention to the differentiating value of the reflex capillary spasm, as he calls the white line that follows the attempt to elicit the meningitic stripe. He thinks that the arterial hypotension with peripheral capillary dilatation induces the exact reverse of what is observed in true meningitis. The mechanical excitation induces contraction of the capillaries. This sign is important for the differentiation of the suprarenal syndrome. In both the cases described the suprarenals had been entirely destroyed by tuberculous processes, secondary in one case and probably primary in the other. The meninges were intact in each case.

### Archiv f. Verdauungs-Krankheiten (Boas'), Berlin.

*Last indexed XLI, page 692.*

43 (IX, No. 4.) *Utility of Percussion and Auscultation in Diagnosis of Stomach Affections. S. v. Pesthy (Budapest).—Ueber die Brauchbarkeit der Perkussions-Auskultation in der Diagnostik der Magenerkrankungen.
44 Proteolytic Power of Stomach Content. C. v. Rzentkowski (Warsaw).—Ueber die proteolytische Kraft des Mageninhaltes.
45 *Determination of Capacity of Stomach. N. P. v. Spanje (Amsterdam).—Das Manometer bei der Capacitätsbestimmung des Magens.

43. **Percussion in Diagnosis of Gastric Affections.**—This communication from von Ketly's clinic at Budapest states that percussion-auscultation has abundantly established its usefulness in more than 100 cases examined. The results were so incredible in 2 instances that they were regarded as failures of this method of functional diagnosis, but the operation disclosed that the remarkable abnormal condition indicated actually did exist. By this method the stomach outlines are traced in their natural position, size and form; it is simple and practicable, and is so perfectly harmless that it can be used where all other methods of functional diagnosis are contra-indicated. In combination with artificial insufflation of the stomach, percussion-auscultation imparts the most valuable information in regard to the muscular tone of the organ, distinguishing accurately between atony and hypertrophy. When the position of the greater curvature is determined by percussion-auscultation both before and during artificial distension of the organ, there is a difference of about 2 cm. in the normal stomach outlines in these conditions. If the difference exceeds 2 cm. the muscular tonicity is diminished. A difference less than 2 cm. indicates hypertrophy of the stomach musculature. We are able by this means to determine even slight degrees of atony which escape detection by the test meals or can be only uncertainly diagnosed by their aid. The information to be derived by means of percussion-auscultation in case of abdominal tumors is also extremely valuable. When the tumor is circumscribed its outlines can be accurately determined and its source of origin defined. A still further advantage of the percussion-auscultation method is that it enables manipulations to be dispensed with when necessary. Pesthy groups the various cases in his experience diagnosed by this method alone or in combination with others, giving the particulars of the findings in gastroptosis, dilatation, contracted stomach, etc. [Ivanoff has recently expatiated on the advantages of palpatory percussion, that is, learning to appreciate the percussion findings as experienced by the percussing muscles. He thinks that this refinement of percussion will be found very valuable in certain cases. His communication on the subject was mentioned in these columns recently, xli, page 1446, with special reference to his suggestion of the use of the tuning-fork for percussion-auscultation and palpatory percussion.—Ed.]

45. **Determination of Stomach Capacity by Means of the Manometer.**—Spanje describes a manometer which he has devised for the purpose of determining the capacity of the stomach in patients accustomed to the use of the stomach tube. The apparatus looks rather complicated in the cut, he remarks, but in reality it is extremely simple, inexpensive and easily constructed. After aspirating until the organ is empty, air is allowed to enter until the patient begins to experience a sensation of distension, the maximal manometer pressure being 6 to 8 mm. of mercury. Spanje reports the particulars in a number of cases thus examined. In one there had been evidences of stomach trouble for sixteen years, and every two or three days the patient, a man of 44, vomited undigested food, with lactic acid and free HCl. The manometer indicated a stomach capacity of 2,700 c.c. at a pressure of 6 to 8 mm. mercury. On the diagnosis of stenosis pylori and ectasia ventriculi a gastro-enterostomy and entero-anastomosis were done. A small, hard, movable tumor was found at the pylorus. The stomach capacity had declined to 1,200 c.c. when the patient was dismissed cured. In another case the patient complained of violent pain at a manometer pressure of less than 1 mm. mercury—the symptoms indicating stenosis pylori. Perigastritis was assumed in consequence of the pain and the small capacity of the stomach, and this assumption was confirmed by the operation in this and a number of other cases. In health the fasting stomach is entirely empty and contains no air—the walls evidently being in contact. Percussion of the empty stomach is therefore of little use.

### Centralblatt f. d. Grenzgebiete, Jena.

*Last indexed XL, page 132.*

46 (VII, No. 6.) *Renal Abscess and Perinephritis. E. Herszky.—Nierenabscess und Perinephritis. Collective Review. (Commenced in No. 1.)
47 (No. 10.) *Ueber die Puerperal-Eklampsie. J. Schnürer (Vienna). Collective Review. (Commenced in No. 3.)
48 Gonorrheal General Infection and Metastases. K. v. Hofmann (Vienna.)—Gonorrhoische Allgemeininfektion und Metastasen. Collective Review. (Commenced in No. 7.)
49 (No. 11.) Enuresis nocturna. J. Landau (Cracow). Collective Review.
50 *Ueber die Laparotomie bei tuberkulöser Peritonitis. D. G. Zesas (Berne). Collective Review.
51 (No. 16.) Changes in the Vascular Apparatus Persisting After Injuries. H. Herz (Breslau).—Ueber die nach Verletzungen zurückbleibenden Veränderungen des Gefässapparates. Collective Review. (Commenced in No. 11.)

52 (No. 18.) Pankreas-Cysten. M. Münzer (Breslau). Collective Review. (Commenced in No. 13.)
53 Volvulus des S romanum (sigmoid flexure). A. Baer. Collective Review. (Commenced in No. 15.)
54 (No. 19.) *Die multiple Neurofibromatose (Recklinghausen'sche Krankheit). C. Adrian (Strasburg). Collective Review. (Commenced in No. 3.)

[**The Borderland Centralblatt.**—The full title of this comparatively new journal is the "Centralblatt for the Borderland between Medicine and Surgery." It is issued irregularly as material accumulates. About 23 numbers have been issued in 1903, forming a volume of about 900 pages. It makes a specialty of comprehensive summaries of the international literature on the various subjects presented, with a running commentary by the reviewer. Each issue contains a number of abstracts from the borderland literature. It is in one sense a companion to the large Borderland Archives, better known as the *Mitteilungen a. d. Grenzgebieten*. Frequent reference is made to the work of the Americans in the articles in these publications.]

46. **Renal Abscess and Perinephritis.**—Herszky reviews 307 articles published on this subject of late years. The consensus of opinion is in favor of operating as soon as there is a well-founded suspicion of an abscess. The abscess formation is rapidly progressive and early intervention is required especially on this account. If the smallest abscess focus is left the incision has not accomplished its purpose, and Israel contends that the surgeon's task is not complete until he has exposed the kidney or its capsule so that it can be thoroughly palpated.

47. **Puerperal Eclampsia.**—Schnürer's review embraces the literature from 1890 to June, 1902, a total of 758 articles. The average occurrence of eclampsia ranges from 2.25 per cent. of all the births in Queirel's experience to .12 per cent. in Veit's. Schauta reports .25 per cent. in 134,000 births and Inojew .53 per cent. in 111,047 births, the general average being .45 per cent. Autochthonous exclampsia occurred on an average in .19 per cent., that is, once in 525 births, although Döderlein's experience has been nearly three times as favorable as this. Schnürer gives a number of tables showing the stage, age, mortality, etc. The eclampsia developed during the pregnancy in 20 per cent., during delivery in 59 per cent., and during the puerperium in 21 per cent. The affection is most common in Russia, occurring in the proportion of 1 to 73 and 1 to 150 births, while in England the average proportion is 1 to 750 and Döderlein, at Würtemberg reports only 1 to 3,561. The average mortality was 21.85 per cent. Stroganoff has no mortality to report in his 58 cases, Dührssen 21 per cent. in 200 cases, and Wirtz 78 per cent. in 43 cases. The mortality of the children averaged 36.56 per cent. Here again Stroganoff has no mortality, while Zweifel reports 33 per cent. mortality among 103 children, Dührssen 53.4 per cent. in 146 children and Wirtz 69 per cent. Twins were noted in 6.93 per cent. of all the cases of eclampsia, and a very large proportion of all the eclamptic women were primiparæ, the percentage ranging from 60 to 90 per cent., except in Inojew's experience in which it was 43.7 per cent. (Stroganoff's method of treating eclampsia was described in THE JOURNAL, xxxix, p. 727, 1902.)

50. **Operative Treatment of Tuberculous Peritonitis.**—Zesas concludes from his study of 69 articles that have been published on this subject, that it is risky to postpone operative intervention in tuberculous peritonitis in the hope of a spontaneous cure as it is of rare occurrence. An aseptic and cautious laparotomy with gentle detachment of adhesions never harms and frequently arrests the process or cures it. He reports 2 cases from his own experience in which complete cure has persisted for nine and five and a half years, both patients girls, 15 to 20 years of age.

54. **Multiple Neurofibromatosis.**—This comprehensive review is carried nearly through the entire year. It reviews the literature that has been published since Adrian's previous work on the subject in 1901. He concludes that the prognosis is not absolutely unfavorable so long as the central nervous system is not involved, or is not the exclusive seat of the affection. Some of the patients reach an advanced age, 60 to 88 years. The prognosis is obscured in many cases by the cachexia accompanying the condition which lowers the resistance to tuberculosis and other intercurrent affections. There is also a liability to malignant degeneration of the neurofibromata and a modification of the skeleton suggesting osteomalacia. The location of the tumors is also an important factor in the prognosis. Treatment is generally powerless, but avoidance of cutaneous irritations should be urged as a prophylactic measure and also other factors tending to depress the vitality. Local injections have had only transient effect. Operative removal offers little prospects of success on account of the tendency to recurrence. In one case on record resection of a tumor in the knee was followed by formation of tumors over the entire body. The recurrence is liable to present malignant characteristics. In one case treatment with suprarenal substance conquered the patient's asthenia, but the improvement was transient and the general condition grew worse as soon as the medication was suspended. Whitehouse has also reported improvement in one case under arsenic.

## Mitteilungen aus den Grenzgebieten, Jena.

*Last indexed page 1307.*

55 (XII, Nos. 2-3.) *Leucocytes in Appendicitis. A. Federmann. Ueber Perityphlitis mit bes. Berücksichtigung des Verhaltens der Leukocyten.
56 *Hemorrhoids in Children. G. Reinbach (Breslau).—Hämorrhoiden im Kindesalter, zugleich ein weiterer Beitrag zur pathologischen Anatomie dieses Leidens.
57 *Importance of the Parathyroid Glands. Walbaum (Marburg). Ueber Untersuchungen über die Bedeutung der Epithelkörperchen beim Kaninchen.
58 *Ueber die idiopathische Erweiterung des Esophagus. J. Lossen (Königsberg).
59 *Die chirurgische Behandlung der Colitis ulcerosa chronica. Nehrkorn (Heidelberg).
60 *Osmosis and Conductibility of Body Fluids. F. Engelmann (Hamburg).—Zur Lehre von dem osmotischen Drucke und der elektrischen Leitfähigkeit der Körperflüssigkeiten.

55. **The Leucocyte Curve in Appendicitis.**—In Federmann's experience the leucocyte curve has varied with the three forms of appendicitis, the simple, the perforative and the gangrenous. The differences are due to the intensity of the infection, the reacting powers of the organism and the local conditions. Large numbers of leucocytes invariably differentiated incipient peritonitis from ileus without complications. An early, very high leucocytosis, up to 40,000 or 50,000, seems to be characteristic of benign, gynecologic peritonitis. In cases of benign perforation with rapid encapsulation the very high leucocytosis noted at first materially subsides by the third day with the temperature and other symptoms. In diffuse suppurative peritonitis continuing a progressive course the hyperleucocytosis subsides in the same way, but the other symptoms persist and grow worse. A leucocytosis of 20,000 after the fourth day with other severe symptoms, speaks strongly in favor of deficient encapsulation with a tendency to spread. The same symptoms by the end of the first week or later positively indicate a more or less encapsulated process. A high leucocytosis is in itself a favorable sign, while small numbers of leucocytes accompanying other severe symptoms are the expression of an already established general intoxication, and hence suggest the gravest prognosis. Surgical intervention is still indicated, however. Federmann writes from the Moabit Hospital at Berlin and concludes with the detailed reports of 23 cases.

56. **Hemorrhoids in Children.**—Reinbach classes hemorrhoids as true angiomata cavernosa and thinks that the tendency to their development is congenital. He has been studying the microscopic structure in both adults and children and gives the particulars here of specimens derived from a girl of 8. He has encountered them a number of times in children. Purely venous congestion may induce a clinical picture very much like that of true hemorrhoids.

57. **Importance of the Parathyroid Glands.**—Walbaum's experiments on rabbits have demonstrated that the epithelial corpuscles have an important function, apart from that of the thyroid gland. The outer seem to have a greater vital significance than the inner ones. After their extirpation the rabbits exhibited convulsions and progressive cachexia, and became dull, the fur rough. When these glands were trans-

planted they healed in place, but degenerated and the animals succumbed as without transplantation.

58. **Idiopathic Dilatation of Esophagus.**—Lossen's experience includes 5 cases. All had developed on a nervous basis; in one case the cardio-spasm had been favored by chronic inflammation of the esophagus. Radioscopy is an invaluable aid for the differentiation of the condition. He applied Fleiner's method of feeding by the stomach tube with good results, combating the cardio-spasm by means of a tablespoonful of oil before each meal. When feeding through the tube can not be satisfactorily continued and rectal feeding is insufficient, he advises not to delay gastrostomy too long.

59. **Surgical Treatment of Chronic Ulcerative Colitis.**—Nehrkorn is convinced that an artificial anus—preferably at the flexure—is decidedly to be preferred to mere entero-anastomosis. He believes also that the formation of a valve fistula by the Kader-Gibson technic has many advantages. For irrigations in the after-treatment he uses chamomile tea, dilute alcohol solutions of salicylic acid and occasionally boric acid, tannin or nitrate of silver. He reviews the literature on the subject, the total cases reported numbering 30, to which he adds 4. They include several published in The Journal. The operation was undertaken on the right side in 16 cases, with 6 complete successes and 3 failures; and on the left side in 9, with 7 complete successes and only one failure. These results speak in favor of an anus at the flexure. He appends the case history of a rapidly fatal case of severe dysentery restricted to the colon. The prompt surgical intervention was unable to avert the fatal termination, but he thinks it was justified even in such a desperate case.

60. **Osmotic Pressure and Electric Conductibility of Organic Fluids.**—[Engelmann has previously stated that he had found the electric conductibility a surprisingly constant figure in 200 tests of the blood serum. In a case of bile fistula in which the bile was tested every two hours, the freezing-point and the electric conductibility varied in parallel proportions, the slightest change in either being accompanied by a corresponding modification of the other. The concentration and conductibility of segregated urine also parallel each other in health, with minute precision. He emphasizes that this affords a valuable means of controlling the findings of each by means of the other test, and is especially valuable as the conductibility can be tested with minimal amounts of urine. —Ed.] In the present article he reports further extensive research. The electric conductibility of the blood serum does not parallel the freezing-point in pronounced renal insufficiency. There does not seem to be any retention of electrolytes in these cases, while the concentration of the blood augments in proportion to the imperfect functioning of the kidneys. He also found that after intravenous infusion of 1,500 to 2,000 c.c. of a .6 per cent. salt solution the osmotic pressure of the blood speedily returned to its original value, even when it was high.

### Münchener med. Wochenschrift, Munich.

61 (L., No. 47.) *Die Resultate der Appendizitis-Operationen in Jena während des letzten Semesters. Riedel.
62 *Measurement of Pressure in Right Auricle. G. Gaertner (Vienna).—Die Messung des Drucks im rechten Vorhof.
63 *Nile Blue Base as Reagent for Carbonic Dioxid in the Air. M. Heidenhain.—Die Nilblaubase als Reagens auf die Kohlensäure der Luft.
64 *Therapeutic Tests with Fluorescent Substances. H. v. Tappeiner and Jesionek (Munich).—Therapeutische Versuche mit fluoreszierenden Stoffen.
65 Phototherapy of Lupus. Werther.—Ueber die Lichtbehandlung des Lupus mit der Finsen-Reynschen Lampe und die verwandten physikalischen Methoden.
66 Cow's Milk in Infant Feeding. V. Soxhlet.—Kuhmilch als Säuglingsnahrung.
67 Tubar-Gravidität und Unfallrente (accident insurance). Döderlein.
68 Ready-Made Nutrient Enemata. A. Schmidt.—Gebrauchsfer- [illegible]
69 [illegible] Erfahrungen in China. Wolffhügel.
70 [illegible] Diagnosis of Kidneys Without Catheterization of Ureters. F. Voelcker and E. Joseph (Czerny's clinic, Heidelberg).—Funktionelle Nierendiagnostik ohne Ureterenkatheter.
71 *New Optic Method of Determination of Albumin. E. Raehlmann.—Ueber ultramikroskopische Untersuchung von Lösungen der Albumin-Substanzen und Kohlehydrate und eine neue optische Methode der Eiweissbestimmung bei Albuminurie.
72 *Action of Röntgen Rays on Animals. H. Heineke.—Ueber die Einwirkung der Röntgenstrahlen auf Tiere.
73 Ueber Pathogenität des Löfflerschen Mäuse-Typhus-Bazillus beim Menschen. R. Trommsdorff (Gruber's Institute, Munich).
74 Determination of Specific Gravity of Living Human Subject. J. Wengler.—Bestimmung des spez. Körpergewichtes am lebenden Menschen. (See Jamin's article in No. 34.)
75 *Ueber Primäre Tuberkulose-Infektion durch den Darm (through intestines). O. Wagener (Kiel). (Commenced in No. 47.)
76 Zur Frage der chirurgischen Behandlung der Gastroptose. Hammer. (Commenced in No. 47.)
77 F. von Recklinghausen, zu seinem 70 Geburtstage am 2 Dezember, 1903.

61. **Appendicitis Operations at Jena.**—Riedel advocates early operating as soon as the diagnosis of appendicitis is established, without waiting for hyperleucocytosis. He urges education of the public so that the affection will be recognized in its early stages, and provision made for careful transportation of the patient—preferring a hand-borne litter to the usual modes of conveyance in the country and small towns. A litter should be kept on hand the same as a fire engine, ready for emergencies in such places. The earlier the operation the smaller the incision required and the less risk in the intervention.

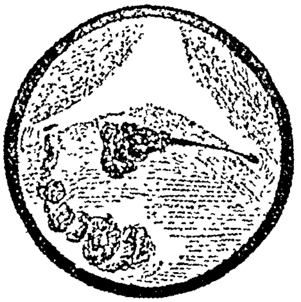
62. **Determination of Pressure in Right Auricle.**—Gaertner proclaims that it is possible to determine the pressure in the right auricle by observing the behavior of the veins in the arm when the arm is held upright. The veins become engorged when the arm is hanging down and collapse when the arm is raised. If the arm is raised very slowly it will be seen that the point at which the veins collapse is always at a certain level for a given person. The veins remain round and prominent as the arm is raised until this level is reached, when the walls flatten out. This point of subsidence of the veins is in health always at the level of the sternal end of the third, fourth or fifth ribs. The veins form a manometer column which allows the condition of the blood column within to be estimated. The slightest positive pressure distends the walls of the veins while they flatten out as soon as the pressure is zero or negative. In pathologic conditions the veins do not collapse until the arm reaches the level of the jugular vein, the eye or even the top of the head in extreme cases. The findings of this test invariably harmonized with other presumptive evidence of stagnation in the right heart. The subject sits erect, the back supported, the sternum vertical. The veins on the back of the hand and forearm are the best adapted for the test. The arm is raised passively by the examiner, with abduction at the shoulder, the muscles relaxed as much as possible, and both arms are tested in turn and several times in succession. The difference between normal and pathologic conditions is so marked that trifling inaccuracies are negligible. Gaertner uses a tape measure to determine the number of centimeters above the zero point—the sternal attachment of the upper margin of the fifth rib—and slips a pencil through a ring at zero in the tape measure for convenience in sighting the rib. He calls the pressure in the auricle VD (Vorhofsdruck), and expresses it in centimeters, representing the number of centimeters, above the zero point, at which the "vein phenomenon" occurs. In valvular affections the pressure is plus 9, 19, 20 and 27. The highest pressure he ever encountered was 37 cm. In some cases this increased VD is the only objective sign of disturbances in the circulation. It is so striking that it is peculiarly adapted to impress the laity when necessary to convince others of the existence of disturbances in the circulation or respiration. It not only affords a certain diagnosis of stagnation in the right heart but enables us to measure its degree and its modifications as they occur under treatment. He also found that the test can be made with the legs, the subject reclining on a flat surface, the legs below the knee hanging down over the edge. The "vein phenomenon" occurs at the same level with both legs and arms in health, indicating that the intra-abdominal pressure may be regarded as nil. A difference between the findings with legs and arms will afford insight into the intra-abdominal pressure in pathologic conditions. When extreme accuracy is desired he uses a wooden standard with a sliding horizontal bar to determine the VD.

63. **Nile Blue Test for Carbonic Dioxid in the Air.**—Heidenhain describes a number of striking experiments that can be

made with this reagent. Among others, if a little of the brilliant orange solution of Nile blue is poured on a sheet of blotting paper held by one corner, it changes instantaneously to blue in the presence of carbonic dioxid in the air. He prepares the solution for this experiment by dissolving the stain in 80 per cent. alcohol and then shaking into it a little finely pulverized calcium hydrate (CaO). The result is a brilliant orange. It is so sensitive that even pouring the fluid into another vessel alters the tint as it takes up the carbonic dioxid from the air so quickly.

69. **Therapeutic Trials of Fluorescent Substances.**—THE JOURNAL has already mentioned von Tappeiner's announcements that certain fluorescent substances, in themselves not at all bactericidal, became extremely so when fluorescence was induced in them by sunlight or diffuse daylight. Further research has demonstrated that this action is effectual also on enzymes and certain toxins. Ricin, for instance, loses its characteristic property of agglutinating red corpuscles after being exposed to this fluorescence. Among the various fluorescent substances tested, eosin was the most pronounced in its action, not only on enzymes but also on toxins and on living cells. It was consequently selected for therapeutic trials. Superficial lesions were painted with a 5 per cent. aqueous solution of eosin and then exposed to the sunlight. Three cases of carcinoma, 10 of condylomata lata, 5 of lupus and several of other cutaneous affections were treated by this combination. In one case of destructive carcinoma of the nose and cheek on a woman of 76, after four weeks of this treatment the edges of the lesion have subsided, the suspicious zone of infiltration around it has completely vanished, the interior of the cavity shows fresh, healthy granulations, and there is already a strip of healthy cicatricial tissue 8 to 13 mm. extending through a part of the growth. A rodent ulcer of eighteen years' standing cleared up under six weeks of treatment to a healthy granulating surface with nothing to suggest the former condition, and two more weeks will evidently complete the transformation into healthy cicatricial tissue. The third case of cancer has now, after sixty days of treatment, a smooth cicatrix in the place of the former succulent, fast proliferating carcinomatous growth on the face. In lupus the lesions rapidly healed under the treatment when they were close to the surface. Deep-seated nodules were not benefited. The superficial ones, whether large or small, ulcerating or not, seemed to display the same tendency to heal as the carcinomatous tissue. Sound tissue is not materially affected. Eosin was given internally at the same time, but the particulars of this internal administration are not reported. Condylomata lata on the female genitalia rapidly subsided under this local treatment and a primary syphilitic lesion on the tongue also healed and the accompanying tumefaction of the regional glands spontaneously subsided. No further manifestations of the syphilis were noted in this case until sixteen weeks later, when a few roseola patches became apparent on the abdomen. A case of tuberculosis of the testicle and scrotum in a lad of 14 was treated in this way. The tumor gradually subsided and tubercle bacilli could no longer be found in the secretions after four weeks. Eosin was injected into the corresponding thigh. This case is still under treatment. All pains vanished soon after the eosin was first applied.

70. **New Method of Functional Diagnosis of the Kidneys.**—Voelcker and Joseph describe a simple means of determining the functional activity of each kidney without catheterization of the ureters or the use of a urine segregator. It consists in the injection of a stain which is eliminated exclusively by the urine, is non-toxic and passes unchanged through the body, not being transformed like methylene blue into colorless compounds, while it is not so soluble as the latter and hence does not diffuse through the tissues and organic juices other than the urine. They express surprise that this well-known stain—indigo carmin—has not been applied before to functional diagnosis of the kidneys as its advantages over other stains are so obvious. The maximum elimination through the urine occurs in thirty minutes, gradually subsiding to the end of the second hour, after which only minimal amounts can be detected to the end of the tenth hour. They describe their experiments and trials on dogs and then the application of the new method in the clinic. The technic preferred is the injection into the gluteal muscles of a fresh, 4 per cent. solution of carminum ceruleum (identical with indigotine I and indigo carmin). The solution is made with .4 gm. of indigo carmin in 10 c.c. of physiologic salt solution, injecting 4 c.c., warm. The fluid is rather a suspension than a solution. Twenty to thirty minutes after the injection the cystoscope is introduced into the bladder and the jets of strikingly blue urine can be seen emerging from the mouths of the ureters. The jets appear with some force and are directed toward the median line, and then the blue fluid gradually sinks to the bottom of the bladder. Even the novice in bladder examination has an unmistakably clear picture before him of the functioning of the kidneys. The cut shows this picture in a normal bladder. The jet is just spurting from one ureter, while that from its mate is sinking to the bottom. A number of instances are reported showing the importance of the information thus derived. In one case the symptoms indicated tuberculosis of the bladder. The lesions were so extensive that catheterization of the ureters would have been impossible. Attacks of pain developed in the right kidney region, with fever and cerebral symptoms. The right kidney was much enlarged. The indigo carmin test showed that no urine was being eliminated from the left kidney, which had caused no symptoms and was apparently normal. Consequently the idea of operating on the enlarged right kidney was abandoned and the fever ascribed to meningitis. The necropsy disclosed that the left kidney—which had given no clinical trouble—was in complete caseous degeneration, while the right proved to be the only sound organ in the body. The new test saved the patient from an inevitably useless operation, to say the least. In another case a papilloma in the bladder nearly covered the mouth of one ureter and the patient suffered from hematuria. Other symptoms suggested the possibility that the papilloma in the bladder was merely a metastasis from the kidney, but no means were known by which the condition of the kidneys could be decided as the growth prevented catheterization of the ureter. Three years later the patient returned with pronounced anemia from the recurring hematuria, hemoglobin 20 per cent., and new papillomatous growths in the bladder. The indigo carmin test was applied, and at once blue urine spurted with equal force and of the same tint from each ureteral orifice, showing that the kidneys were functioning normally. The patient was restored to health by extirpation of the excrescences in the bladder. In these 2 cases this test is the only one known with which functional diagnosis was possible. Other cases are related showing the superior simplicity and ease of the test in comparison to others. It is particularly valuable when the ureter mouths are hidden from any cause, especially with prolapse of pelvic organs or hypertrophied prostate. The type of the elimination, the intervals, size, force and other properties of the jets are also valuable indices of the kidney functioning, impossible to mistake, and impossible to determine by other methods to the same extent. It may prove to be feasible to determine the specific gravity of the blue fluid from each kidney by injecting some fluid into the bladder whose specific gravity approximates that of the urine, noting whether the blue urine from one ureter rises or falls with the blue cloud from the other, or whether there is a difference between their behavior in this respect. Mu time has been spent in the endeavor to establish certain



ards of force, tint, etc., characteristic of certain affections of the kidneys, but this research is not yet concluded.

71. **Ultra-Microscopic Detection of Albumin.**—Raehlmann describes tests with the new microscope with intense focal illumination from the side which shows up particles only 1 to 10 microns in diameter. He has found that the supposedly dissolved particles of albumin in solutions of albumin in reality retain their typical identity and can be inspected through this microscope. This is true of all solutions of albumin, including the urine in albuminuria. All these particles are in constant motion. The transformation of glycogen into dextrin, grape sugar, etc., under the action of certain reagents can be watched under this microscope, although the fluid to the eye shows no indication of turbidity or precipitation.

72. **Action of Roentgen Rays on Animals.**—Heineke reports experimentation which showed that mice, rabbits and guinea-pigs succumbed in a few days after prolonged exposure to radium and Roentgen rays. The findings in the organs, with the exception of the spleen, were negative, but the spleen was always found small and dark colored, with other changes, indicating that the rays had a destructive action on the red corpuscles.

75. **Primary Tuberculosis by Way of the Intestines.**—Wagener found primary tuberculous infection of the intestinal or mesenteric glands in 13, that is, in 17.1 per cent. of 76 child cadavers, with discovery of the tubercle bacilli. Similar lesions were found in 3 others, but without the bacilli, making a total of 21.1 per cent. in which primary tuberculosis of these glands was manifest.

### Gazzetta degli Ospedali, Milan.

*Last indexed XLI, page 1239.*

78 (XXIV, No. 122.) La sintomalogia delle dyspepsie. G. Campanella.
79 *Senso muscolare e fenomeno di Romberg. C. Mannini.
80 *Del siero antidifterico nella pneumonite e nella meningite infettiva: polivalenza dei sieri. M. Gay.
81 Cancroid on Lower Lip Completely Disappearing During Progress of Pernicious Malaria and Reappearing After Recovery. S. Portanova.—Un epitelioma del labbro inferiore scomparso nel decorso di una perniciosa malarica e riapparso dopo di questa.
82 Termoforo-Enteroclisma. G. Bellini.
83 (No. 125.) *Relapses in Pneumonia. B. Lovera.—Osservazione sulle ricadute nella polmonite crupale.
84 Le iniezione subcongiuntivali di sublimato corrosivo nelle ulceri corneali. A. De Blasi.
85 **Annual Report from E. Maragliano's Clinic, 1902-3.*
86 (No. 128.) Congenital Hernia from Standpoint of Industrial Insurance. C. Momo.—Le ernie congenite nella legge degli infortuni sul lavoro.
87 Myasis da Cephalomya ovis. S. Saitta. Seven cases.
88 *L'irrigatore porta spugna. G. B. Fazzari (Antonimina Reggio, *Calabria*).
89 (No. 131.) *Note sopra alcuni casi di scarlattina. G. Berghinz. (See also A. de Fabritiis in No. 122.)
90 Relaxation of Muscles of Neck as Sign in Chloronarcosis. G. Fratti.—Sul valore dei segno della nuca nella cloronarcosi.
91 Cura delle anemie e questione economica. L. Camuzzi.
92 *Sulla auto-sieroterapia nelle pleuriti essudativi. G. Donzello.
93 3 *casi di erpes zoster* complicanza della parotite. F. Orta.
94 (No. 134.) *Puncture of Spleen in Diagnosis of Typhoid Fever. Michelazzi.—La puntura della milza nella precoce diagnosi clinica differenziale tra forme tifiche e tifosimile.
95 Le *modificazioni* della milza e del timo in alcune anemie sperimentali. G. Petrone.
96 Enterocele crurale e varicocele crurale. B. Schiassi (Bologna).
97 Modificazioni degli organi del torace e di alcuni dell' addome in gravidanza e puerperio. G. dal Fabbro.
98 L'eczema dei bambini e la sua cura. A. Prandi.
99 *Sull' estratto di capsule surrenali. G. Migliacci.

79. **Romberg Sign and Muscle Sense.**—Mannini describes a case out of several in his experience in which the Romberg sign was marked but without any evidences of disturbance in the muscle sense. This sign is not, therefore, symptomatic of a lesion in the muscle sense in all cases.

80. **Polyvalence of Serums.**—Gay reports rapid recovery in 2 cases of pneumonia after injection of antidiphtheria serum. He details the particulars of the cases before and after the injections and thinks that the benefit was unmistakable. He injected the serum also in a severe case of meningitis, but without arresting its fatal course.

83. **Relapses in Pneumonia.**—Lovera's 3 patients were 19, 38 and 61 years old, and the relapse occurred four, five and seven days after the crisis and apyrexia. The second attack terminated by lysis in each case. He has had another patient who has passed through eight attacks of pneumonia.

85*a*. **Endovenous Injections of Sublimate.**—Maragliano states that the experience at his clinic has shown that these injections can be made without the slightest inconveniences if a large vein is selected for them, and they are made in such a way that the blood continues to flow through the vessel and thus mixes continually with the fluid injected. The solution must be weak, 1 to 10,000 or 1 to 5,000, or even 1 to 1,000 is harmless if the above rules are strictly followed. He injected from 1 to 5 mgm. of sublimate a day in progressing doses in man, examining the blood from day to day. No changes could be detected in the blood except a slight leucocytosis. From experimental research on animals he concludes that the minimal toxic dose is 15 mgm. per kilogram in a rabbit. Intoxication with sublimate has a tendency to destroy the blood corpuscles, but this has nothing in common with the therapeutic doses of sublimate. The slow, minimal therapeutic intoxication induces a leucocytosis which probably generates immunizing substances active against both bacteria and toxins. This assumption harmonizes perfectly with what is observed after endovenous injections of sublimate in certain infectious diseases. They unmistakably increased the resisting powers of animals injected, conferred agglutinating power on the serum and preserved the animals against toxic doses of bacterial toxins. He succeeded in saving the animals from the results of experimental diplococcus and streptococcus peritonitis and from anthrax by endovenous injection of 1/50 mgm. of sublimate per kilogram in a weak solution. This result was obtained both by preliminary injections of small repeated doses, as well as by postponing the injections until after the infection. The researches reported establish the efficacy of small doses, and that the action of the drug is due not to its bactericidal power, but to the increase in the organic resistance and the production of antitoxic material. Other drugs were tested in endovenous injections, and the dosage found for tincture of iodin, antipyrin, Fowler's solution, etc. One patient with rebellious hemoptysis was treated by endovenous injection of 150 c.c. of a 2 per cent. solution of gelatin, which arrested the hemorrhage almost instantaneously. These researches were conducted mostly by Mariani and included much experience with endovenous injection of oxygen, demonstrating its efficacy in certain conditions and its harmlessness.

85*b*. **Defense of the Organism Against Tuberculosis.**—Live tubercle bacilli were injected into the subcutaneous connective tissue in various animals, and their fate studied. Sooner or later all were swallowed by leucocytes. This occurred most promptly in the dog—in less than five days—and most slowly in the guinea-pig. The phagocytosis was more rapid and pronounced in the animals previously artificially immunized. Tubercle bacilli injected directly into the lung were also destroyed by phagocytosis.

85*c*. **Immunization Against Tuberculosis.**—Maragliano describes his researches in this line which he has been conducting since 1893. He remarks that he has now in his laboratory several rabbits which are immunized to such an extent that they are able to resist endovenous injections of fresh cultures of the most virulent tubercle bacilli. The method of immunization adopted by Behring differs from that with which Maragliano has been working for several years since he established the possibility of immunizing animals in 1895. He has found lately that the serum of immunized animals may attain remarkable agglutinating power. One cow agglutinates at 1 to 400 and one rabbit at 1 to 2,000. The serum loses its agglutinating power if heated to 55 and 60 C., but regains it on addition of normal serum. Its antitoxic power is not affected by warming. The presence of tuberculous poisons, proteins and toxins, in a serum retards or prevents agglutination. The antitoxic and agglutinating properties are not always parallel. After injection of an emulsion of living tubercle bacilli into the peritoneum of guinea-pigs the bacilli remain free in the peritoneal cavity and are not taken up by the leucocytes to any extent, although there is slight leucocytosis. Preliminary injection of tuberculin prevents the leucocytosis, but does not affect the phagocytosis. Injection of a fatal toxic dose of tuberculin neutralized by antitoxic serum induces a permanent leucocytosis and facilitates phagocytosis. Preliminary injection of antitoxic serum induces marked leucocytosis and intense phagocytosis. Marzagalli and Figari of the clinic have succeeded in extracting from the protoplasm of living and virulent bacilli a substance with which they immunize rabbits, their serum acquiring high agglutinating and bactericidal powers. This substance is sterile and contains no bacilli. When injected into rabbits and guinea-pigs by any route it does not cause either local or general reaction, and no traces of tuberculous lesions can be discovered later. The serum of animals thus immunized agglutinates homogeneous cultures of tubercle bacilli in the proportion of 1 to 2,000 (Courmont-Arloing method). These serums lose their agglutinating power in great measure when heated to 60 C. It is banished completely by keeping them at this temperature for three hours, but strange to say, they reacquire the agglutinating power again by the addition of even a small quantity of normal serum, *per se*, free from any clumping power. These serums added to cultures of tubercle bacilli check their development and colonies transplanted are unable to grow further. Virulent tubercle bacilli treated with these serums for four hours to five days and then injected into animals either under the skin or into the peritoneum or a vein, do not induce infection. The animals survive while all the controls die in less than thirty days. A number of rabbits and guinea-pigs in the laboratory are still thriving and increasing in weight, although they have been repeatedly injected during the course of three months with virulent bacilli treated with these serums. They evidently contain antitoxins and antibodies in conspicuous amounts and are extremely bactericidal besides. Maragliano regards these facts as a new victory in the potency of serums, which may be fraught with new and great therapeutic significance. The fluid with which the serum is obtained is derived from the protoplasm of tubercle bacilli and is able to substitute in practice the homogeneous cultures required by the Courmont-Arloing technic of agglutination tests. This places these tests within easy reach of the general practitioner. Any serum endowed with agglutinating power causes precipitation with this fluid. The suspected serum is placed in a test tube and above it a layer of this solution of bacillus pulp. A ring of coagulation forms at the point of contact if the serum possesses clumping power and not otherwise.

85*d*. **Further Research on Tuberculosis.**—Among the other subjects studied and described may be mentioned the morphologic modifications of the tubercle bacillus on various media; the toxic action of bacilli freed from fats; the presence of the bacilli in the circulating blood and in the urine, and extensive experimental research on tuberculosis in fowls and cattle. Sciallero had charge of research on injection of bacilli into various tissues and announces that there is little if any defensive reaction when living bacilli are injected into the tissues as the products of the vital activity of the bacteria have a demoralizing and destructive action. The bodies of the dead bacilli, *on the contrary, when injected into animals* stimulate the cells to produce materials for defense. The method of injecting a suspected fluid into the mammary glands of guinea-pigs suckling young was given a trial. Jemma thus injected some cerebrospinal fluid from three subjects with tuberculous meningitis. The scanty bacilli in the fluid rapidly proliferated in the mammary glands, and in less than a week were clearly evident in every instance. This technic is particularly useful for comparatively rapid differentiation in dubious cases, as it is so simple and certain. Further research has confirmed the importance of the size of the heart for the prophylaxis and prognosis of tuberculosis. Lanza found that the eosinophiles increased in every case examined, parallel with the progress of recovery. His tests were made with the serum from blisters, the subjects all children. Scanty bacilli in urine were detected by adding a little blood serum to a quart of urine, boiling, decanting the fluid and treating the coagulated sediment with gastric juice, then centrifuging and examining the sediment for bacilli.

85*e*. **Serotherapy of Tuberculosis.**—*In this as in the previous* years the adult patients with advanced tuberculosis were not benefited permanently by the treatment with serum from the immunized animals. As soon as they regained a little strength they abandoned treatment and returned to their occupations. The results in children were much better. In 3 out of 5 children with pulmonary tuberculosis treatment with the tuberculosis antitoxin has resulted in a permanent clinical cure. The other two with the acute bronchopulmonary form were not benefited. Among 38 out-patients there have been 6 clinical cures and 21 improvements, some of them amounting *almost to a cure. Maragliano in conclusion reiterates his* former assertions that nine years of experience have only confirmed him in the assumption that serum treatment is the only possible method of cure and that its success depends on the co-operation of the organism. He deplores the number of lives lost every year that might have been saved by serum treatment if the profession would abandon their prejudices against it and institute it in time. His assistants have demonstrated that the serum can be administered by the mouth, which removes one of the greatest objections against it. Thirteen patients in the clinic were treated by this route alone, and in 2 there was a clinical cure, although one was a febrile case. Five out-patients were also treated by the mouth alone, and in 2 there has been a clinical cure. He is confident that his research on the immunization of human beings will soon be crowned with success, although he does not care to publish anything further in regard to it at present.

88. **Sponge Irrigator.**—Fazzari's instrument aims to apply medication to the lesions in the urethra for hours at a time and exactly at the points where it is needed. A metal tube screws into a curved tip which fits into the bladder. A small cylinder cut from a sponge slips over this tube and a metal sheath fits over the tube and sponge, made in halves which fit together, the whole forming an instrument like an ordinary catheter when put together. It is inserted into the urethra and the outer sheath is then removed, one half at a time. The sponge is then moistened with the desired antiseptic through the central tube, the fluid impregnating the sponge through the holes beneath it.

89. **Scarlet Fever.**—In the epidemic described by Berghinz there were about 90 cases of true scarlet fever; the majority were marked by an acute, hemorrhagic nephritis. In another series of cases the hemorrhagic nephritis occurred alone, without any scarlet fever or other infectious preliminaries, but the development of true scarlet fever then or later in other members of the family indicated its nature. In some cases the hemorrhagic nephritis occurred with a measles-like rash. In another there was *no exanthem* but a suppurating mastoiditis accompanying the acute, hemorrhagic nephritis. De Fabritiis reports an epidemic of scarlet fever marked by its benign character, but insists that the way in which the epidemic still persists imposes the necessity for prophylactic measures the same as during a more malignant epidemic. Some modification of the soil may entail virulency at any time.

92. **Auto-Serotherapy of Pleuritis with Effusion.**—Five patients were treated by Donzello by withdrawal of 5 c.c. of the pleural effusion and immediate injection of 3 c.c. of the same under the skin of the forearm or abdomen. The patients recovered and he is convinced that this treatment was responsible for the prompt absorption of the effusion and the copious diuresis that followed. In one case he was obliged to aspirate the effusion owing to serious complications on the part of the lungs, but it did not collect again.

94. **Puncture of Spleen for Early Diagnosis of Typhoid.**—Michelazzi advocates puncture of the spleen in dubious cases as the best means of differentiating typhoid. It is superior to making cultures from the venous blood as there are liable to be associated micro-organisms, while the typhoid germs usually locate exclusively or principally in the spleen. Puncture of this organ is simple and harmless.

99. **Suprarenal Extract.**—Migliacci presents arguments to prove that suprarenal extract is as much a specific for akinesis of the muscular system as strychnin is for akinesis of the nervous system.

## Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Medical Dispensary of the Jefferson Medical College. Volume IV. December, 1903. Diseases of Digestive Tract and Allied Organs. Liver, Pancreas and [illegible]tures, Dislocations, Amputations, Su[illegible] Orthopedics—Genito-Urinary Diseas[illegible] Physiology—Hygiene—Practical Therapeutic Referendum. Cloth. Pp. 444. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1903.

THE LYMPHATICS. General Anatomy of the Lymphatics, by G. Delamere. Special Study of the Lymphatics in Different Parts of the Body, by P. Poirier, Professor d'Anatomie a la Faculté de Médecine a Paris, Chirurgien des Hôpitaux, and B. Cunéo, Professeur agrégé a la Faculté de Médecine de Paris. Authorized English Edition by Cecil H. Leaf, M.A., M.B. (Cantab.) F.R.C.S. (Eng.), Assistant Surgeon to the Cancer Hospital. With 117 Illustrations and Diagrams. Cloth. Pp. 301. Price, $5.00 net. Chicago: W. T. Keener & Co. 1903.

DEPARTMENT OF PUBLIC HEALTH AND CHARITIES, Having the Care, Management, Administration and Supervision of the Charities, Almshouse, Hospital and All Other Similar Institutions, the Control or Government of Which Is Intrusted to the City. The Mayor of Philadelphia, Hon. John Weaver. Director of Public Health and Charities, Edward Martin, M.D. Assistant Director, Mr. George W. Sunderland. Philadelphia Hospital Superintendent, Robert H. Smith. Chief Resident Physician, M. H. Biggs, M.D. Cloth. Pp. 178.

TEXT-BOOK OF OPERATIVE SURGERY: By Dr. Theodore Kocher, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Authorized Translation from the Fourth German Edition. By Harold J. Stiles, M.B., F.R.C.S. Edin., Surgeon to the Royal Edinburgh Hospital for Sick Children. With 255 Illustrations. Cloth. Pp. 440. Price, $5.00. London: Adam and Charles Black. New York: The Macmillan Co. 1903.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VII. Illustrated by Chromo-lithographs and 688 Half-tone and Wood Engravings. Cloth. Pp. 951. Price, $7.00 per volume. New York: Wm. Wood & Co. 1904.

A COMPEND OF DENTAL PATHOLOGY AND DENTAL MEDICINE, Containing the Most Noteworthy Points on the Subjects of Interest to the Dental Student and a Section on Emergencies. By George W. Warren, A.M., D.D.S., Professor of Principles and Practice of Operative Dentistry, Penn. Coll. of Dental Surgery, Philadelphia. Fourth Edition, Illustrated. Cloth. Pp. 180. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co. 1903.

ESSENTIALS OF PELVIC DISEASES WITH ILLUSTRATIVE CASES. By E. Stanmore Bishop, F.R.C.S. Eng., Hon. Surg. Ancoats Hospital, Manchester. And an Appendix on Examination of Blood, etc. By Charles H. Melland, M.D., (Lond.) M.R.C.P., Hon. Physician Acoats Hospital, Manchester. Cloth. Pp. 297. Price $3.00 net. New York: William Wood & Co. 1903.

COMPEND OF DISEASES OF THE EAR, NOSE AND THROAT. By John Johnson Kyle, B.S., M.D., Lecturer on Otology, Rhinology and Laryngology and Assistant to the Chair of Surgical Pathology in the Medical College of Indiana. 85 Illustrations. Cloth. Pp. 280. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1903.

FOURTH ANNUAL REPORT OF THE WORK OF THE CANCER LABORATORY of the New York State Board of Health. Conducted at the Gratwick Research Laboratory, University of Buffalo. For the Year 1902-3. Transmitted to the Legislature February 1, 1903. Paper. Pp. 161. Albany: Evening Union Company. 1903.

HOW TO ATTRACT AND HOLD AN AUDIENCE, A Popular Treatise on the Nature, Preparation and Delivery of Public Discourse. By J. Berg Esenwein, A.M., Lit. D., Professor of the English Language and Literature in the Pennsylvania Military College. Cloth. Pp. 272. Price, $1.00. New York: Hinds & Noble.

THE RIGHT TO LIFE OF THE UNBORN CHILD. A Controversy Between Prof. Hector Treub, M.D., Reverend R. Van Oppenraay, D.D., S.J., Prof. Th. M. Vlaming, M.D. With an Appendix on a New Method of Operating, Ejecting the Fetus Alive. Cloth. Pp. 125. Price, $1.00. New York: Joseph F. Wagner.

LIST AND STATION OF THE COMMISSIONED AND WARRANT OFFICERS OF THE NAVY OF THE UNITED STATES, AND OF THE MARINE CORPS on the Active List and Officers on the Retired List Employed on Active Duty, July 1, 1903. Paper. Pp. 131. Washington: Government Printing Office. 1903.

BLOOD-PRESSURE IN SURGERY, An Experimental and Clinical Research. The Cartwright Prize Essay for 1903. By George W. Crile, A.M., M.D., Professor of Clinical Surgery, Western Reserve Medical College. Cloth. Pp. 422. Price, $4.00. Philadelphia and London: J. B. Lippincott Co. 1903.

A COMPEND OF PATHOLOGY, General and Special. A Student's Manual in One Volume. By Alfred Edward Thayer, M.D., Professor of Pathology, University of Texas. Second Edition, Containing 131 Illustrations. Leather. Pp. 711. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1903.

THE PRINCIPLES OF "OPEN-AIR" TREATMENT OF PHTHISIS and of Sanatorium Construction. By Arthur Ransome, M.D., M.A. (Cantab.), F.R.C.P., F.R.S., Hon. Fellow of Gonville and Caius College, Cambridge. Cloth. Pp. 104. Price, 5 shillings. London: Smith, Elder & Co. 1903.

FIFTEENTH EDITION OF THE OFFICIAL REGISTER AND DIRECTORY OF PHYSICIANS AND SURGEONS IN THE STATE OF CALIFORNIA: Revised and Published by the Medical Society of the State of California. Nov. 15, 1903. Cloth. Pp. 242. San Francisco: The Hicks-Judd Co.

THE AFTER-TREATMENT OF OPERATIONS: A Manual for Practitioners and House Surgeons. By P. Lockhart Mummery, F.R.C.S. Eng., Demonstrator of Operative Surgery, St. George's Hospital. Cloth. Pp. 221. Price, $2.00 net. New York: Wm. Wood & Co. 1903.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL: Fourteenth Series. Edited by Herbert L. Burrell, M.D., W. T. Councilman, M.D., and Charles F. Withington, M.D. Paper. Pp. 178. Boston: Published by the Trustees. 1903.

HANDBOOK OF DISEASES OF THE EAR, for the Use of Students and Practitioners. By Richard Lake, F.R.C.S. Eng., Surgeon Royal Ear Infirmary. With 3 Colored Plates. Cloth. Pp. 232. Price $2.00 net. New York: Wm. Wood & Co. 1903.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume the Twenty-first. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 630. Printed for the Association. For sale by Wm. J. Dornan, Philadelphia. 1903.

TWENTIETH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF INDIANA for the Fiscal Year Ending Oct. 31, 1901, and the Statistical Year Ending Dec. 31, 1901. To the Governor. Cloth. Pp. 687. Indianapolis: Wm. B. Burford. 1903.

ELEMENTS OF SURGICAL DIAGNOSIS: By A. Pearce Gould, M.S. Lond., F.R.C.S. Eng., Surgeon to the Middlesex Hospital. Third Edition. Revised and Enlarged. Cloth. Pp. 607. Price, $2.00 net. Chicago: W. T. Keener & Co. 1903.

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## New Patents.

Patents of interest to physicians, Nov. 17 to 24:

744510. Making albuminoid substances from maize. Eugene Donard and H. Labbe, Paris, France.
744512. Suspensory bandage. Edward R. Drake, DeLand, Fla.
744096. Ozonizer. Marius Otto, Paris, France.
744603. Atomizer. John D. Pierce, Philadelphia.
744613. Ophthalmometer or other tables. Wm. F. Reimold. Philadelphia.
744126. Surgical chair. Wm. I. St. John, Detroit.
744656. Fountain syringe. Ottile Wider, Washington, D. C.
744666. Carbonizing apparatus. Bernhard Zwillinger, New York
744667. Carbonizing. Bernhard Zwillinger, New York.
744668. Apparatus for carbonizing. Bernhard Zwillinger, New York.
744569. Carbonizing and cooling down the charge. Bernhard Zwillinger, New York.
744670. Carbonizing material. Bernhard Zwillinger, New York
744713. Device for correcting spinal curvature. Carl G. P Blomqvist, Omaha.
744718. Massage appliance. Isabel Cassidy, New York.
745097. Preparing fat-free casein. Otto Eberhard, Ludwigslust, Germany.
745105. Pasteurizer. Aage Jensen, Topeka, Kan.
744766. Fumigating candle. Ernest Kimmich, Detroit.
745021. Movement-cure apparatus. John J. Lewin, Palo Alto. Cal.
744782. Sterilizer. Sidney E. Morse. New York.
745227. Label retainer for salve boxes, ointment boxes, etc. Clarence A. Myers, Atlantic City, N. J.
744978. Disinfectant vessel. Heinrich Pfluger, Frankfort-on-the M[illegible]
[illegible] limb. James F. Rowley, Chicago.
[illegible]ppliance. Albert V. Todd, Denver.
[illegible]bandage. Justin K. Toles, Chicago.
[illegible] in electric therapeutics and electric treatment. Louis Williams, Seattle, Wash.

# The Journal of the American Medical Association

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## Original Articles.

### TYPHOID FEVER.

SOME UNCONSIDERED HINDRANCES IN ITS PROPHYLAXIS.*

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For fifty years we have known that drinking water is the chief vehicle of typhoid infection, and this knowledge has enabled great cities to make measurably effective defense against typhoid fever. For more than twenty years it has been known that the whole problem of preventing typhoid fever lay in the disposal of typhoid dejecta. Knowing so much, it would seem that typhoid fever might have long since been reduced to insignificance as a cause of death. But the bad eminence of the disease is as conspicuous to-day as it was twenty years ago.

In the grewsome story of typhoid among the United States troops during the Spanish-American War, we were confronted by a fact so humiliating that the profession has not yet had courage to consider fully its great significance. We learned that of every one hundred cases of typhoid fever sent to division hospitals, one-half had escaped the diagnosis of regimental surgeons. This enormous defect of professional skill was exposed, not by typhoid in its rarer and more subtle disguises, nor by the very mild infections, but by plain, uncomplicated typhoid fever, which puts a man to bed for three to six weeks; such typhoid as all physicians see year after year and recognize five or six times in ten. Restrictive measures can avail us little if the enemy can maintain effective disguise while fully armed and accoutred. The failure of definite and effective means to restrict the prevalence of typhoid fever is chargeable primarily against American medical schools, which do not teach young men to recognize the commonest continued fever of the United States.

Before the fight against typhoid fever can become hopeful one barrier must be leveled: a ponderous inertia which American medical education has imposed on the medical mind in respect to one disease. Until we are relieved of the dead weight of authority, the thraldom of the text-book, we shall go on misinterpreting, in 40 per cent. of instances, the clinical phenomena of typhoid infection. While dogmatic teaching is rapidly giving way to natural methods of study, there is in the portfolio of many a professor of medicine one lecture, or a set of lectures, which will be given up with great reluctance. The subject is typhoid fever, and the vivid descriptions so impress the students that they ever after require each case of typhoid to be as good as the description, to wear all its insignia, and to proclaim aloud its full name with decorations and titles. The prophylaxis of typhoid fever would gain an impetus from the conflagration of all such literature. Typhoid fever is taught too much; it is studied far too little. This defect of medical education has no preferred habitat within the confines of America. The glaring delinquency of Army medical men owed little to the latitudes in which it was demonstrated. These observers came from all parts of the land, and brought with them such light as their previous training and professional associations afforded. The men who entered the Army medical service in the late war were not more delinquent than those who remained in civil practice. There is a broad humor in Carroll's story of a solitary regimental surgeon who had no malaria among his fifty fever patients. He had a foreign accent, and had not acquired the American delusion that malaria is a considerable contributor to the mortality of the country.

In 1898 the Special Commission on Typhoid in the United States Army Encampments testified that no fatal malarial infections occurred to the soldiers in any part of the United States. In 1900 the profession of this country testified through the Census Bureau that for every seven persons who died of typhoid fever, three others died of malaria. In the south Mississippi belt the testimony is that twice as many deaths occurred from malaria as from typhoid. Among the twenty-one geographical divisions* of the country this one, the south Mississippi belt, showed the largest error in numbers, but a worse error was that of the central Appalachian region, where malaria is not even a considerable cause of disability, but where, nevertheless, it was charged with one death for every ten charged to typhoid.

I have plotted for each of the twenty-one grand groups the mortality returns of both typhoid and malaria by

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

* These Grand Groups do not respect state boundaries, but physical characteristics, as may be understood from their designations as follows:

| | |
|---|---|
| Grand Group 1. | North Atlantic Coast Region. |
| Grand Group 2. | Middle Atlantic Coast Region. |
| Grand Group 3. | South Atlantic Coast Region. |
| Grand Group 4. | Gulf Coast Region. |
| Grand Group 5. | Northern Hills and Plateaus. |
| Grand Group 6. | Central Appalachian Region. |
| Grand Group 7. | The Great Northern Lakes. |
| Grand Group 8. | Interior Plateau. |
| Grand Group 9. | South Central Appalachian Region. |
| Grand Group 10. | Ohio River Belt. |
| Grand Group 11. | South Interior Plateau. |
| Grand Group 12. | South Mississippi River Belt. |
| Grand Group 13. | North Mississippi River Belt. |
| Grand Group 14. | Southwest Central Region. |
| Grand Group 15. | Central Plains and Prairies. |
| Grand Group 16. | The Prairie Region. |
| Grand Group 17. | Missouri River Belt. |
| Grand Group 18. | Western Plains. |
| Grand Group 19. | Heavily Timbered Region of the Northwest. |
| Grand Group 20. | Cordilleran Region. |
| Grand Group 21. | Pacific Coast Region. |

having 88.9 per cent. of its total population rural, and a typhoid mortality of 79 per 100,000; south Atlantic division having a population 83 per cent. rural, and a typhoid mortality of 62 per 100,000; western division, population 68.8 per cent. rural, typhoid mortality of 33 per 100,000; north central division, population 59.4 per cent. rural, typhoid mortality of 42 per 100,000; north Atlantic division, population 41 per cent. rural, typhoid mortality of 30 per 100,000. Here we find the typhoid mortality rising as the urban population falls.

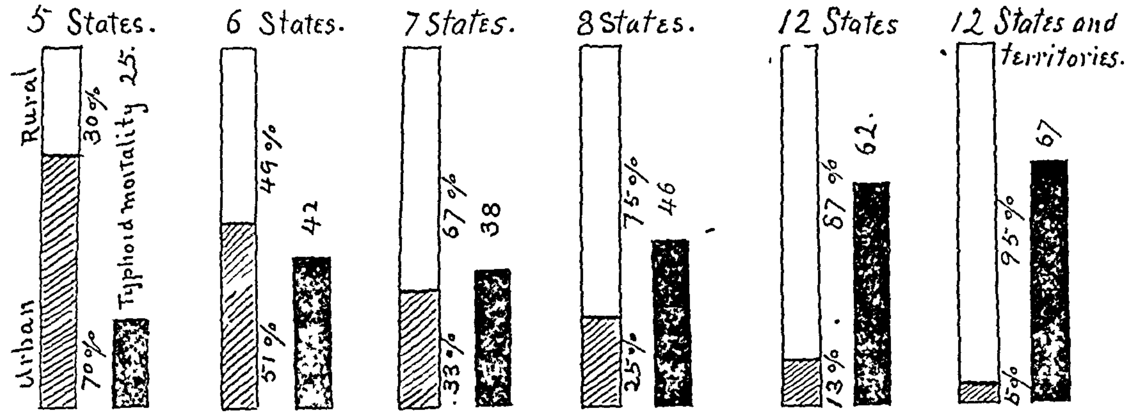

Chart 3. Showing typhoid increasing as we pass from urban to rural conditions. Rural populations indicated by white, urban by shaded areas. Black columns indicate typhoid mortality.

Some doubt may be admitted as to whether these grand divisions can fairly be compared. If the United States be divided into state groups on the basis of the distribution of population between town and country, we can eliminate to a great extent the influence of latitude and longitude.

Thus there are five states whose rural populations are under 30 per cent. of the totals. They are Massachusetts, New York, Rhode Island, New Jersey and the District of Columbia. Their aggregate population is 12,665,183, of which number 70 per cent. are classed as urban, i. e., live in towns of 8,000 or over. Their combined typhoid mortality is 25 per 100,000. (See Table I.)

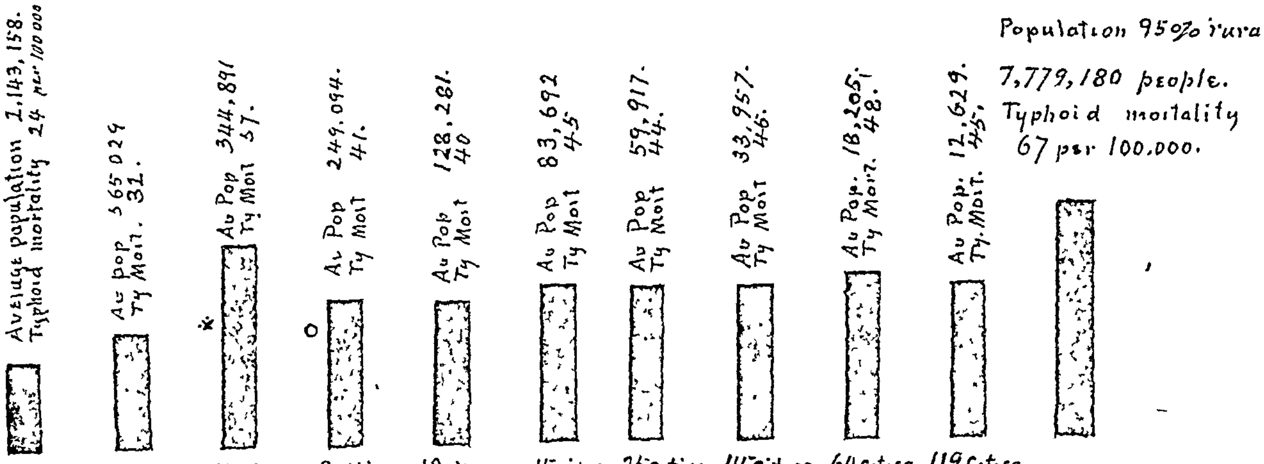

Chart 4. Typhoid in cities. Showing general inverse relation of typhoid to population.

* Includes Pittsburg with typhoid mortality 147 per 100,000.

○ Includes Washington with typhoid mortality 81 per 100,000.

Six states have populations between 40 and 50 per cent. rural—Connecticut, Pennsylvania, Delaware, Maryland, Illinois and California. In these the total population is 50 per cent. urban, and the typhoid mortality for 1900 was 42 per 100,000.

Seven states have populations between 50 and 60 per cent. rural—New Hampshire, Ohio, Michigan, Wisconsin, Missouri, Colorado, Washington. Their population is 43 per cent. urban, and their typhoid mortality in 1900 was 38 per 100,000.

Eight states have populations between 60 and 70 per cent. urban—Maine, Indiana, Minnesota, Louisiana, Montana, Wyoming, Utah, Oregon. Their population is 25 per cent. urban and their typhoid mortality in 1900 was 46 per 100,000.

Twelve states have populations between 70 and 80 per cent. rural—Vermont, Virginia, South Carolina, Georgia, Florida, Tennessee, Alabama, Texas. Their population is 13 per cent. urban, and their typhoid mortality in 1900 was 62 per 100,000.

Twelve states have populations more than 80 per cent. rural—West Virginia, North Carolina, North Dakota, Mississippi, Indian Territory, Oklahoma, Arkansas, New Mexico, Arizona, Nevada, Idaho. Their population is 5 per cent. urban, and their typhoid mortality in 1900 was 67 per 100,000. Taking the twenty-one grand groups into which the country is divided on a basis of physiography, and arranging them according to their population density, one finds that the typhoid mortality rises as population density decreases, until we reach a population density of 50 persons per square mile. Below that point the relations of typhoid to population density are, as might be expected, quite irregular. (See Table II.)

The experience of Maryland supports the general indications of these figures. There is but one large city in the state. The inhabitants of Baltimore are half of the total population of the state. There are but two other towns having as many as 8,000 inhabitants. It may be fairly said that the population of the state is equally divided between rural and urban conditions. The ratio of typhoid mortality is 1 to 2.5 in favor of Baltimore, a poorly-sewered city; supplied with unfiltered water from an extensive and unprotected water-shed.

Dividing the cities of this country into ten classes on a descending population scale, we find that the typhoid mortality rises somewhat as populations diminish. Thus the least mortality in 1900 (24 per 100,000) fell on the three cities having populations of more than 1,000,000—New York, Chicago and Philadelphia. Not one of these cities is watered or sewered in a thoroughly modern way. Indeed, one of them is notoriously bad in respect to water supply.

There are but three cities in the half-million class—Boston, Baltimore and St. Louis—whose combined mortality for 1900 was 32 per 100,000.

Next we have five cities—Cleveland, Buffalo, San Francisco, Cincinnati and Pittsburg—whose average population is 344,891, and whose combined typhoid mortality for 1900 was 57. In this group we have the banner city of the year in respect to typhoid mortality among populations of over 100,000, Pittsburg, with the large rate of 147 per 100,000. The combined mortality in this class, if Pittsburg were omitted, would be 37 per 100,000.

Next are eight cities with an average population of 249,094, and a typhoid mortality for 1900 of 41 per 100,000. The city of Washington, in this class, had a mortality of 81 per 100,000, adding 6 points to the combined mortality of the class.

In the next class are eighteen cities whose average population is 128,281, and whose typhoid mortality in 1900 was 40 per 100,000. The second city of the country in typhoid mortality among populations of over 100,000 is in this class, Allegheny, Pa.

In the next class are fifteen cities with populations averaging 83,692, and typhoid mortality for 1900 was 45 per 100,000.

Twenty-five cities whose populations averaged 59,517 had a typhoid mortality in 1900 of 44 per 100,000. The heaviest individual rate of the year in populations over 50,000 fell in this class on Savannah; 107 deaths among her 54,000 citizens, a rate of 197 per 100,000.

In the next class are sixty cities having an average population of 18,205, whose combined typhoid mortality for 1900 was 48 per 100,000.

Finally there are 119 cities whose populations average 12,629, and whose combined typhoid mortality for the year was 45 per 100,000.

Of twenty-four towns having typhoid mortality rates above 100, the tenth class furnishes eleven in the states of Connecticut, Iowa, Indiana, Louisiana, Wisconsin, Michigan, Kansas and Illinois. (See Table IV.)

The ninth class furnishes five towns, in Kentucky one, in New York two, in Mississippi one, in Ohio one.

The eighth class furnishes four towns, in Pennsylvania two, in Ohio one and in Colorado one.

The seventh class furnishes two towns, one in South Carolina and one in Georgia.

The sixth class furnishes one city, Atlanta, Ga., eighteenth in order of typhoid rate descending.

The third class furnishes one city, Pittsburg, Pa., sixth in rank of typhoid mortality descending.

The states contributing the eight highest urban rates are, in order, Georgia, Louisiana, Connecticut, Kentucky, Iowa, Pennsylvania, New York. Pennsylvania has two cities in this list.

In the list of cities showing rates above 100, Ohio has three towns; Pennsylvania, two; Connecticut, two; Iowa, two; Illinois, two; Georgia, two; New York, two; Louisiana, one; South Carolina, one; Kentucky, one; Indiana, one; Wisconsin, one; Kansas, one; Mississippi, one; Colorado, one; Michigan, one. (See Tables III and IV.)

The total population accounted for in this analysis of typhoid mortality is 20,922,886. The actual increase of typhoid mortality as the scale of population falls is probably greater than these tables indicate, for the states whose general mortality from typhoid is comparatively low are the chief contributors to the ninth and tenth classes, whose rates are highest.

The foregoing studies seem to warrant two conclusions, each having an important bearing on the general prophylaxis of typhoid fever. The first and more important is that the typhoid mortality reported in this country is not more (probably less) than 65 per cent. of the typhoid mortality actually occurring. Of the total morbidity from the disease a considerable part runs its course to recovery without coming under medical observation, and of the cases receiving professional care fully one-half are not recognized as typhoid fever. It therefore follows that the first step in the restriction of typhoid fever must fail for lack of diagnostic skill in the rank and file of the medical profession. The correction of this delinquency does not wait on improved methods of clinical or laboratory diagnosis, but on a general realization of the ubiquity and perennial activity of typhoid fever, and on the lumbering advance of reform in medical education.

A subsidiary conclusion from this part of the present study is that a very large majority of the deaths attributed to malaria are due to causes in which malaria does not even participate.

The second important conclusion, drawn from a study of the distribution of typhoid mortality, is that the infection is more heavily seeded in smaller communities, and that the propagation of the disease is in general from the country to the town, rather than from town to country. The explanation of this fact is probably found in the greater care given to the disposal of human excrement as communities grow more populous.

The prophylaxis of typhoid fever consists essentially in defense against excremental contamination, and precisely as the barriers are more or less remote from the sources of infection is the defense less or more effective. In this view of the prevention of typhoid fever it must appear that, notwithstanding the very great value of the defenses on which cities most rely, these defenses do not, and by their widest conceivable extension can not, satisfy the requirements of a rational prophylaxis of typhoid fever. In town and country alike the appointed time and place for intervention against the spread of typhoid fever is whenever and wherever a case of typhoid fever is recognized. Those outbreaks of typhoid which from time to time scandalize great cities and bring down wrath on the authorities are, as a rule, less important than, and may be part of, unremarked, unopposed, or perhaps lie-coddled epidemics covering the countryside for miles around. To set up at the city gates expensive works for the purification of the public water supply as a main defense against water-borne disease is literally a preposterous arrangement. It waives the choice of time, place and weapons, conceding all these advantages to the enemy. It assumes that the vices of rural insanitation are invincible, but they are not. If there is one direction in which, more than another, the political influence of great cities should be exerted, it is to bring rural districts and small communities under legal obligation to render strict account of deaths and the causes of death, and to take and give good heed to the preventable diseases at the time and place of their occurrence.

TABLE I.

FIVE STATES WHOSE URBAN POPULATIONS ARE 60 PER CENT. AND UPWARDS.

| | Population. | Urban. | Typhoid. |
|---|---|---|---|
| Massachusetts | 2,805.346 | 2,132.023 | 625 |
| Rhode Island | 428.556 | 347.892 | 102 |
| New York | 7,268.894 | 4,980.042 | 1,776 |
| New Jersey | 1,883.669 | 1,153.001 | 398 |
| District of Columbia | 278,718 | 278,718 | 225 |
| | 12,665,183 | 8.892.276 | 3,126 |

Rural population, 30 per cent. Typhoid per 100,000, 25.

SIX STATES WHOSE URBAN POPULATIONS ARE BETWEEN 40 AND 60 PER CENT.

| | Population. | Urban. | Typhoid. |
|---|---|---|---|
| Connecticut | 908,420 | 483.068 | 249 |
| Pennsylvania | 6,302.115 | 2,865.937 | 2,779 |
| Delaware | 184.735 | 76.508 | 90 |
| Maryland | 1.188.044 | 557.497 | 510 |
| Illinois | 4,821.550 | 2,271.940 | 1,807 |
| California | 1,485,053 | 649.474 | 542 |
| | 14.889.917 | 7.593.424 | 6,067 |

Rural population, 49 per cent. Typhoid per 100,000, 42.

SEVEN STATES WHOSE POPULATIONS ARE FROM 30 TO 40 PER CENT. URBAN.

| | Population. | Urban. | Typhoid. |
|---|---|---|---|
| New Hampshire | 411.588 | 158.920 | 69 |
| Ohio | 4.157.545 | 1,599.840 | 1,795 |
| Michigan | 2.420.982 | 747.334 | 680 |
| Wisconsin | 2.069.042 | 634.437 | 365 |
| Missouri | 3,106.665 | 955.563 | 1,790 |
| Colorado | 539,700 | 205.703 | 222 |
| Washington | 518,103 | 165.282 | 171 |
| | 13,223.625 | 4.467.079 | 5,092 |

Rural population, 67 per cent. Typhoid per 100,000, 38.

EIGHT STATES WITH POPULATIONS 20 TO 30 PER CENT. URBAN.

| | Population. | Urban. | Typhoid. |
|---|---|---|---|
| Maine | 694.466 | 164.639 | 200 |
| Indiana | 2,516.462 | 607.834 | 1,496 |
| Minnesota | 1,751.394 | 470.046 | 386 |
| Louisiana | 1,381.625 | 314.386 | 1,077 |
| Montana | 243.329 | 65.623 | 42 |
| Wyoming | 92.531 | 22.294 | 16 |
| Utah | 276.749 | 69.844 | 73 |
| Oregon | 413.536 | 98,807 | 106 |
| | 73,700,092 | 1,813.473 | 3,396 |

Rural population, 75 per cent. Typhoid per 100,000, 46.

TWELVE STATES WITH POPULATIONS FROM 10 TO 20 PER CENT. URBAN.

| | Population. | Urban. | Typhoid. |
|---|---|---|---|
| Vermont | 343,641 | 305,054 | 107 |
| Virginia | 1,854,184 | 1,582.489 | 914 |
| South Carolina | 1,340,316 | 1,240.146 | 970 |
| Georgia | 2,216,331 | 1,972.562 | 1,585 |
| Florida | 528,542 | 449,413 | 290 |
| Iowa | 2,231,853 | 1,857,128 | 549 |
| Nebraska | 1,066,300 | 897,575 | 260 |
| Kansas | 1,470,495 | 1,265.288 | 688 |
| Kentucky | 2,147,174 | 1,784,115 | 1,669 |
| Tennessee | 2,020,216 | 1,750.298 | 1,709 |
| Alabama | 1,828,697 | 1,694,991 | 1,713 |
| Texas | 3,048,710 | 2,704,848 | 2,014 |
| | 20,096,459 | 17,503,907 | 12,468 |

Rural population, 87 per cent. Typhoid per 100,000, 62.

TWELVE STATES AND TERRITORIES HAVING POPULATIONS LESS THAN 10 PER CENT. URBAN.

| | Population. | Urban. | Typhoid. |
|---|---|---|---|
| West Virgnia | 958,800 | 885,197 | 586 |
| North Carolina | 1,893,810 | 1,797,273 | 1,250 |
| North Dakota | 319,146 | 309,548 | 65 |
| South Dakota | 401,750 | 391,484 | 73 |
| Mississippi | 1,581,270 | 1,510,176 | 1,370 |
| Indian Territory | 392,060 | 392,060 | 321 |
| Oklahoma | 398,331 | 378.288 | 201 |
| Arkansas | 1,311,564 | 1,240.201 | 1,172 |
| New Mexico | 195,310 | 195,310 | 102 |
| Arizona | 122,931 | 122.931 | 41 |
| Nevada | 42,335 | 42.335 | 12 |
| Idaho | 161,772 | 161,772 | 37 |
| | 7,779,179 | 7,426,575 | 5.230 |

Rural population, 95 per cent. Typhoid per 100,000, 67.

TABLE II.

THE 21 GRAND GROUPS, ACCORDING TO THE TWELFTH CENSUS, SHOWING POPULATIONS, TYPHOID-MALARIA VARIETIES, WITH DENSITIES AND TYPHOID RATES.

| Grand Group. | Typhoid Deaths. | Malaria Deaths. | Population. | Density. | Typhoid Mor'y. |
|---|---|---|---|---|---|
| 1. | 868 | 157 | 3,824.576 | 198.4 | 23 |
| 2. | 1,900 | 694 | 7,139.889 | 299.8 | 27 |
| 3. | 625 | 922 | 1,193.697 | 29.0 | 52 |
| 4. | 1,111 | 1,179 | 1,767.487 | 16.5 | 63 |
| 5. | 604 | 94 | 2,063.453 | 38.1 | 29 |
| 6. | 991 | 108 | 3,249.040 | 89.0 | 30 |
| 7. | 1,701 | 193 | 5,910.100 | 114.0 | 29 |
| 8. | 3.796 | 557 | 7,488.008 | 99.4 | 51 |
| 9. | 2,880 | 695 | 4.031,150 | 39.0 | 70 |
| 10. | 1.774 | 309 | 3.018,359 | 85.7 | 58 |
| 11. | 3,971 | 2,285 | 4.812.414 | 37.7 | 83 |
| 12. | 753 | 1,424 | 1,090.623 | 39.0 | 69 |
| 13. | 1,198 | 571 | 2,872.624 | 42.2 | 42 |
| 14. | 4,319 | 3,597 | 5,424.490 | 21.9 | 79 |
| 15. | 3.410 | 695 | 5,458.379 | 65.0 | 62 |
| 16. | 2,645 | 641 | 8,133.937 | 30.6 | 33 |
| 17. | 537 | 169 | 1,446.643 | 16.5 | 37 |
| 18. | 580 | 199 | 1,442.684 | 3.4 | 40 |
| 19. | 543 | 101 | 1,990.622 | 20.3 | 28 |
| 20. | 638 | 220 | 1,965.065 | 2.2 | 33 |
| 21. | 529 | 64 | 1,671,335 | 16.0 | 32 |

TABLE III.

*Three hundred and one American cities classified on a descending scale of populations; showing typhoid mortality according to U. S. Census figures for each of ten classes.*

CLASS I.

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Chicago | 1,698,575 | 470 |
| New York | 3,437,202 | 594 |
| Philadelphia | 1,293,697 | 489 |
| Totals | 6,429,474 | 1,553 |

Average population, 2,143,158. Typhoid mortality per 100,000, 24.

CLASS II.

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Boston | 560.892 | 153 |
| Baltimore | 508,957 | 177 |
| St. Louis | 575,238 | 190 |
| Totals | 1,695.087 | 520 |

Average population, 565,029. Typhoid mortality per 100,000, 32.

CLASS III.

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Cleveland | 381,768 | 184 |
| Buffalo | 352,387 | 88 |
| San Francisco | 342,782 | 135 |
| Cincinnati | 325,902 | 106 |
| Pittsburg * | 321,616 | 474 |
| Totals | 1,724,455 | 987 |

Average population, 344,891. Typhoid mortality per 100,000, 57.

* Pittsburg being omitted, the typhoid mortality of the group is 37 per 100,000.

CLASS IV.—EIGHT CITIES.

| | Population. | Deaths *from Typhoid.* |
|---|---|---|
| *New Orleans* | 287,104 | 191 |
| *Detroit* | 285,704 | 54 |
| Milwaukee | 285,315 | 52 |
| Washington, *D. C.** | 278,718 | 225 |
| Newark, N. J | 246,070 | 26 |
| Jersey City | 206,433 | 46 |
| Louisville, Ky | 204,731 | *150* |
| Minneapolis | 202,718 | 83 |
| Totals | 1,996,793 | 827 |

*Average population, 249,094.* Typhoid mortality per 100,000, 41.

* Washington being omitted, the typhoid mortality of the group *is 35 per* 100,000.

CLASS V.—EIGHTEEN CITIES.

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Providence | 174,597 | 52 |
| Indianapolis | 169,164 | 77 |
| Kansas City | 163,752 | 125 |
| Rochester | 162,608 | 38 |
| St. Paul | 162,065 | 36 |
| Denver | 133,859 | 57 |
| Toledo | 131,822 | 53 |
| Allegheny, Pa | 129,896 | 134 |
| Columbus, Ohio | 125,560 | 68 |
| *Worcester,* Mass | 118,421 | 21 |
| Syracuse, N. Y | 108,374 | 25 |
| Fall River | 104,863 | 23 |
| *Los Angeles* | 102,320 | 51 |
| New Haven | 108,027 | 33 |
| *Paterson,* N. J | 105,171 | 31 |
| St. Joseph, Mo | 102,979 | 37 |
| Scranton | 102,026 | 30 |
| Omaha | 102,555 | 41 |
| Totals | 2,309,059 | 932 |

Average population, 128,281. Typhoid per 100,000, 40.

CLASS VI.—FIFTEEN CITIES.

| | *Population.* | Deaths from Typhoid. |
|---|---|---|
| Albany | 91.151 | 41 |
| Richmond, Va | 85.050 | 66 |

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Dayton, Ohio | 85.333 | 45 |
| Seattle | 80.671 | 31 |
| Atlanta, Ga | 89.872 | 98 |
| Lowell, Mass | 94.969 | 18 |
| Cambridge, Mass | 91.886 | 19 |
| Portland, Ore | 90.426 | 22 |
| Grand Rapids, Mich | 87.565 | 34 |
| Hartford, Conn | 79.850 | 45 |
| Reading, Pa | 78.961 | 35 |
| Wilmington, Del | 76.508 | 50 |
| Camden, N. J | 75.935 | 22 |
| Trenton, N. J | 73.307 | 25 |
| Bridgeport, Conn | 70.996 | 11 |
| Totals | 1.255.385 | 562 |

Average population, 83,692. Typhoid per 100.000, 45.

CLASS VII.—TWENTY-FIVE CITIES.

| | |
|---|---|
| Total population | 1,389,462 |
| Average population | 55,578 |
| Total typhoid deaths | 625 |
| Typhoid mortality per 100,000 | 45 |

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Oakland, Cal | 66.960 | 22 |
| Lynn, Mass | 68.513 | 13 |
| Lawrence, Mass | 62.559 | 8 |
| Springfield, Mass | 62.059 | 18 |
| New Bedford, Mass | 62.442 | 16 |
| Somerville, Mass | 61.643 | 17 |
| Elizabeth, N. J | 52.130 | 5 |
| Wilkesbarre, Pa | 51.721 | 14 |
| Erie, Pa | 52.733 | 18 |
| Harrisburg, Pa | 50.167 | 20 |
| Evansville, Ind | 59.007 | 45 |
| Charleston, S. C | 55.807 | 70 |
| Savannah, Ga | 54.244 | 107 |
| Manchester, N. H | 56.987 | 6 |
| Troy, N. Y | 60.651 | 53 |
| Utica, N. Y | 56.383 | 3 |
| Salt Lake, Utah | 53.531 | 16 |
| San Antonio, Texas | 53.321 | 44 |
| Duluth, Minn | 52.969 | 23 |
| Portland, Me | 50.145 | 21 |
| Hoboken, N. J | 59.364 | 19 |
| Yonkers, N. Y | 47.931 | 6 |
| Holyoke, Mass | 45.712 | 13 |
| Waterbury, Conn | 45.859 | 21 |
| Norfolk, Va | 46.624 | 27 |
| Totals | 1,389,462 | 625 |

CLASS VIII.—FORTY-FIVE CITIES.

| | |
|---|---|
| Total population | 1,528.061 |
| Average population | 33,957 |
| Total typhoid deaths | 689 |
| Typhoid mortality per 100,000 | 45 |

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Haverhill, Mass | 37,175 | 4 |
| McKeesport, Pa | 34,227 | 15 |
| Altoona, Pa | 38.973 | 19 |
| Spokane, Wash | 36,848 | 19 |
| Davenport, Iowa | 35,254 | 23 |
| Sioux City, Iowa | 33,111 | 13 |
| Johnstown, Pa | 35,936 | 35 |
| Elmira, N. Y | 35,672 | 13 |
| Chelsea, Mass | 34,072 | 8 |
| Springfield, Ill | 34,159 | 19 |
| Bayonne, N. J | 32,722 | 5 |
| Superior, Wis | 31,091 | 19 |
| Allentown, Pa | 35,416 | 17 |
| Salem, Mass | 35,956 | 7 |
| Youngstown, Ohio | 44,885 | 51 |
| Brockton, Mass | 40.063 | 16 |
| Binghamton, N. Y | 39,647 | 13 |
| Lancaster, Pa | 41,459 | 23 |
| Covington, Ky | 42,938 | 17 |
| Mobile, Ala | 38,469 | 31 |
| Wheeling, W. Va | 38.878 | 26 |
| Lincoln, Neb | 40,169 | 14 |
| Terre Haute, Ind | 36,673 | 22 |
| Saginaw, Mich | 42.345 | 17 |
| Tacoma, Wash | 37,714 | 7 |
| Fitchburg, Mass | 31.531 | 6 |
| Malden, Mass | 33.664 | 13 |
| Newton, Mass | 33.587 | 7 |
| Taunton, Mass | 31,036 | 3 |
| Auburn, N. Y | 30.345 | 12 |
| Schenectady, N. Y | 31,683 | 10 |
| Canton, Ohio | 30,667 | 19 |
| Pawtucket, R. I | 39,231 | 7 |
| Quincy, Mass | 36.252 | 8 |
| Sacramento, Cal | 29,282 | 1 |
| Woonsocket, R. I | 28,204 | 6 |
| New Castle, Pa | 28,339 | 42 |
| Jacksonville, Fla | 28,429 | 19 |
| Easton, Pa | 25,238 | 4 |
| Newport, Ky | 28.301 | 15 |
| Pueblo, Colo | 28,157 | 31 |
| Passaic, N. J | 27,777 | 10 |
| Williamsport, Pa | 28,757 | 11 |
| Bay City, Mich | 27,628 | 8 |
| Gloucester, Mass | 26,121 | 4 |
| Totals | 1,528,061 | 689 |

CLASS IX.—SIXTY CITIES.

| | |
|---|---|
| Total population | 1,092,281 |
| Average population | 18,205 |
| Total typhoid | 521 |
| Typhoid per 100,000 | 48 |

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Norristown, Pa | 22,265 | 9 |
| Jamestown, N. Y | 22,892 | 16 |
| Muncie, Ind | 20,942 | 10 |
| Burlington, Iowa | 23,201 | 14 |
| Wilmington, N. C | 20,976 | 10 |
| Leavenworth, Kan | 20,735 | 8 |
| Wichita, Kan | 24,671 | 17 |
| New Brunswick, N. J | 20,006 | 4 |
| Jackson, Mich | 25,180 | 16 |
| Kalamazoo, Mich | 24.404 | 7 |
| Muskegon, Mich | 20,818 | 4 |
| Bangor, Me | 21,850 | 13 |
| Petersburg, Va | 21,810 | 18 |
| Cohoes, N. Y | 23,910 | 35 |
| Watertown, N. Y | 21,696 | 18 |
| Lafayette, Ind | 18,116 | 6 |
| Richmond, Ind | 18.226 | 10 |
| Ottumwa, Iowa | 18,197 | 18 |
| Northampton, Mass | 18,643 | 6 |
| Chicopee, Mass | 19,167 | 9 |
| Medford, Mass | 18,244 | 7 |
| Lynchburg, Va | 18.891 | 17 |
| Key West, Fla | 17,114 | 7 |
| Paducah, Ky | 19,446 | 31 |
| Lebanon, Pa | 17,628 | 8 |
| Eau Claire, Wis | 17.517 | 5 |
| Battle Creek, Mich | 18,563 | 7 |
| Port Huron, Mich | 19.158 | 7 |
| Concord, N. H | 19,632 | 2 |
| Niagara, N. Y | 19.457 | 24 |
| Findlay, Ohio | 17,613 | 19 |
| Portsmouth, Ohio | 17,870 | 9 |
| Sault Ste. Marie, Mich | 19,158 | 1 |
| Natchez, Miss | 23,898 | 27 |
| Orange, N. J | 24,141 | 5 |
| Perth Amboy, N. J | 17,699 | 2 |
| Kingston, N. Y | 24,535 | 5 |
| Newburgh, N. Y | 24.943 | 10 |
| Amsterdam, N. Y | 20,929 | 3 |
| Gloversville, N. Y | 18,319 | 3 |
| Poughkeepsie, N. Y | 24,029 | 7 |
| Hamilton, Ohio | 23,914 | 4 |
| Lima, Ohio | 21,723 | 8 |
| Newark, Ohio | 18,157 | 5 |
| Central Falls, R. I | 18.167 | 2 |
| Newport, R. I | 22.034 | 12 |
| Burlington, Vt | 18,640 | 4 |
| Santiago, Cal | 17.700 | 2 |
| Meriden, Conn | 24.296 | 5 |
| New London, Conn | 17.548 | 8 |
| Norwich, Conn | 17.251 | 1 |
| Belleville, Ill | 17,484 | 14 |
| Aurora, Ill | 24.147 | 10 |
| Decatur, Ill | 20.754 | 8 |
| Galesburg, Ill | 18.607 | 4 |
| Everett, Mass | 24.336 | 6 |
| Winona, Minn | 19.714 | 5 |
| Madison, Wis | 19.164 | 3 |
| Green Bay, Wis | 18.684 | 6 |
| Nashua, N. H | 28.898 | 1 |
| Totals | 1,092,281 | 521 |

CLASS X.—ONE HUNDRED AND NINETEEN CITIES.

| | |
|---|---|
| Total population | 1,502.829 |
| Average population | 12,629 |
| Total typhoid | 674 |
| Typhoid per 100,000 | 45 |

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Lockport, N. Y | 16,581 | 3 |
| Shreveport, La | 16,013 | 30 |
| Marinette, Wis | 16,195 | 19 |
| Appleton, Wis | 15,085 | 3 |
| Lansing, Mich | 16,485 | 4 |
| Biddeford, Me | 16,145 | 13 |
| Alameda, Cal | 16,464 | 5 |
| Rome, N. Y | 15,343 | 6 |
| Helena, Mont | 10,770 | 4 |
| Meadville, Pa | 10,291 | 10 |
| Carbondale, Pa | 13,536 | 5 |
| Columbia, Pa | 12,316 | 6 |
| Pottstown, Pa | 13.696 | 5 |
| South Bethlehem, Pa | 13,241 | 6 |
| Oil City, Pa | 13,264 | 11 |
| Rutland, Vt | 11,499 | 4 |
| Harrisontown, N. J | 10,596 | 3 |
| Millville, N. J | 10,583 | 5 |
| Montclair, N. J | 13,962 | 1 |
| Phillipsburg, N. J | 10,052 | 2 |
| Ithaca, N. Y | 13,000 | 4 |
| Flint, Mich | 13,103 | 5 |
| Ann Arbor, Mich | 14,509 | 3 |
| Marquette, Mich | 10,058 | 8 |
| Menominee, Mich | 12,818 | 15 |
| West Bay City, Mich | 13,119 | 6 |
| Dover, N. H | 13.207 | 3 |
| Portsmouth, N. H | 10,637 | 1 |
| Augusta, Me | 11,683 | 5 |
| Fresno, Cal | 12,470 | 5 |
| Bridgeton, N. J | 13,913 | 3 |
| Morristown, N. J | 11,267 | 3 |
| Watervliet, N. Y | 14,321 | 12 |
| Dunkirk, N. Y | 11,616 | 6 |
| Geneva, N. Y | 10,433 | 5 |
| Lansingburg, N. Y | 12.595 | 8 |
| Ogdensburg, N. Y | 12.633 | 11 |
| Saratoga, N. Y | 12,409 | 6 |
| Ashtabula, Ohio | 12.949 | 5 |
| Chillicothe, Ohio | 12,976 | 9 |
| Tiffin, Ohio | 10,989 | 4 |

| | Population. | Deaths from Typhoid. |
|---|---|---|
| Massillon, Ohio | 11,444 | 5 |
| Marietta, Ohio | 13,000 | 8 |
| Lawrence, Kan | 10,862 | 3 |
| Phœnixville, Pa | 9,196 | 4 |
| Bennington, Vt | 5,656 | 2 |
| Barre, Vt | 8,448 | 3 |
| Owosso, Mich | 8,696 | 4 |
| Pontiac, Mich | 9,769 | 1 |
| Escanaba, Mich | 9,549 | 9 |
| Iron Mountain, Mich | 9,242 | 1 |
| Ironwood, Mich | 9,705 | 4 |
| Traverse City, Mich | 9,407 | 3 |
| Berlin, N. H | 8,886 | 3 |
| Laconia, N. H | 8,042 | 2 |
| Rochester, N. H | 8,466 | 0 |
| Keene, N. H | 9,165 | 0 |
| Rockland, Me | 8,150 | 1 |
| Hutchinson, Kan | 9,379 | 11 |
| Carlisle, Pa | 9,626 | 5 |
| Plymouth, Pa | 13,649 | 7 |
| Glen Falls, N. Y | 12,613 | 5 |
| Jeffersonville, Ind | 10,774 | 10 |
| Columbus, Ind | 8,130 | 3 |
| Peru, Ind | 8,463 | 10 |
| Vincennes, Ind | 10,249 | 8 |
| Keokuk, Iowa | 14,641 | 15 |
| Muscatine, Iowa | 14,073 | 13 |
| Marshalltown, Iowa | 11,544 | 18 |
| Oskaloosa, Iowa | 9,212 | 4 |
| Leadville, Colo | 12,455 | 6 |
| Raleigh, N. C | 13,643 | 0 |
| Newburyport, Mass | 14,478 | 4 |
| Weymouth, Mass | 11,324 | 1 |
| Marlboro, Mass | 13,609 | 1 |
| Alexandria, Va | 14,528 | 11 |
| Annapolis, Md | 8,525 | 2 |
| Frederick, Md | 9,296 | 4 |
| Hudson, N. Y | 9,528 | 5 |
| Cortland, N. Y | 9,014 | 5 |
| Bellaire, Ohio | 9,912 | 7 |
| Middletown, Ohio | 9,215 | 1 |
| Warren, Ohio | 8,529 | 6 |
| Plainfield, N. J | 15,369 | 2 |
| Middletown, N. Y | 14,522 | 3 |
| Port Jervis, N. Y | 9,385 | 3 |
| Peekskill, N. Y | 10,358 | 0 |
| Corning, N. Y | 11,061 | 5 |
| Johnstown, N. Y | 10,130 | 3 |
| Olean, N. Y | 9,462 | 3 |
| Ironton, Ohio | 11,868 | 12 |
| DuBois, Pa | 9,375 | 4 |
| Hazeltown, Pa | 14,230 | 3 |
| Mahanoy, Pa | 13,504 | 3 |
| Mt. Carmel, Pa | 13,179 | 2 |
| Pittston, Pa | 12,566 | 2 |
| Pottsville, Pa | 15,710 | 3 |
| Steelton, Pa | 12,086 | 3 |
| Ansonia, Conn | 2,681 | 2 |
| Danbury, Conn | 16,537 | 3 |
| Greenwich, Conn | 2,420 | 3 |
| Middletown, Conn | 9,589 | 5 |
| Naugautuck, Conn | 10,541 | 5 |
| Norwalk, Conn | 6,125 | 2 |
| Stamford, Conn | 15,997 | 1 |
| Stonington, Conn | 2,278 | 1 |
| Wollingford, Conn | 6,737 | 3 |
| Bristol, Conn | 6,268 | 11 |
| *Tarrington, Conn* | 8,360 | 2 |
| Danville, Ill | 16,354 | 17 |
| Jacksonville, Ill | 15,078 | 10 |
| Ottawa, Ill | 10,588 | 3 |
| Michigan City, Ind | 14,850 | 3 |
| Beverly, Mass | 13,884 | 4 |
| Melrose, Mass | 12,962 | 6 |
| Mankato, Minn | 10,599 | 6 |
| Chippewa Falls, Wis | 8,094 | 3 |
| Beloit, Wis | 10,436 | 0 |
| Manitowoc, Wis | 11,786 | 3 |
| Totals | 1,502,829 | 674 |

TABLE IV.

THE 24 CITIES HAVING TYPHOID MORTALITY RATES OF ABOVE 100 PER 100,000 IN THE DESCENDING ORDER.

| | Population Class. | Typhoid Mortality per 100,000. |
|---|---|---|
| Savannah | 7 | 197 |
| Shreveport | 10 | 187 |
| Bristol, Conn | 10 | 175 |
| Paducah, Ky | 9 | 159 |
| Marshalltown, Iowa | 10 | 156 |
| Newcastle, Pa | 8 | 147 |
| Pittsburg, Pa | 3 | 147 |
| Cohoes, N. Y | 9 | 146 |
| Charleston, S. C | 7 | 125 |
| Greenwich, Conn | 10 | 124 |
| Niagara, N. Y | 9 | 123 |
| Peru, Ind | 10 | 118 |
| Marinette, Wis | 10 | 117 |
| Menominee, Mich | 10 | 117 |
| Hutchinson, Kan | 10 | 117 |
| Youngstown, Ohio | 8 | 114 |
| Natchez, Miss | 9 | 113 |
| Pueblo, Colo | 8 | 110 |
| Atlanta, Ga | 6 | 109 |
| Findlay, Ohio | 9 | 108 |
| Allegheny, Pa | 7 | 106 |
| Danville, Ill | 10 | 104 |
| Keokuk, Iowa | 10 | 102 |
| Ironton, Ohio | 10 | 101 |

## DISCUSSION.

Dr. J. H. Musser, Philadelphia—It is fortunate that we can make an early, or more precise, diagnosis by modern bacteriologic methods, such as the *employment of the serum test*, or by culture methods; by such means we can make such precise diagnoses that there can hardly be any mistakes made regarding the nature of the prevailing fever or epidemic. There is no excuse, therefore, except probably in some communities or districts, for not making an early diagnosis. Unfortunately, however, there is a lack, apparently, of conscience *in physicians. They are not awake to the dangers of the infection in cases of typhoid fever.* Not long ago, within the last three years, I saw three cases of typhoid fever in one family in the country that had their origin as follows: The original case was an imported one. This man became infected in a near town and came to the country home of the physician, who was very careless regarding the disposal of the excreta. The relation of the privy was such that *its contents drained into a* driven well. This, of course, was the source of infection in the members of the family. One member of this family died and two were placed in great peril. These people were taken ill and all were sick, including the physician, due to the carelessness, or lack of conscience, on the part of the physician regarding the disposal of the excreta. There was a lack of re*gard for the protection of the people in that district.* I could tell of many local epidemics arising through the faults of physicians. It is, therefore, necessary to take a lesson to ourselves before we preach to communities. Communities should be educated in regard to this. Above all, the civil authorities should be brought to realize their responsibilities. In cities where there are piles of dirt, etc., a policeman goes and places a red lantern at each pile to indicate danger; yet no civic authorities would place a red light danger signal in places where there were epidemics or possibilities of typhoid fever. Why is this done in the first instance? Because the city knows that if an accident should happen the authorities would be held responsible. If we should hold the civic authorities similarly responsible in cases of typhoid fever we *could soon get control of the disease. How can we help our*selves regarding this? It is a difficult problem and a difficult question to answer.

It has been said that the busy practitioner has not time to act as police and see that his people carry out his directions regarding the disposal of excreta, etc. We should see developed a conscientious sense of duty which should inspire the untiring effort of all to protect communities as well as individuals. Each practitioner in a community should have a trained assistant. Let him take a man, for instance, from the Johns Hopkins Hospital Laboratory to assist him in laboratory work; any good practitioner can afford this. I am satisfied that any practitioner of medicine who takes an assistant to do work of this character, and so shows the community that he is *practicing the highest type of medicine and making every effort* to protect the community, will increase his income to twice what it would have been without an assistant in charge. If, however, that does not seem to be practical, then a group of physicians should have an assistant to make diagnoses and watch the excreta and to determine whether a typhoid fever patient should be sent forth in a community with safety by *examining* the urine, etc. If this is not practical, then we should resort to government control. We must educate the civic government itself regarding the danger of typhoid fever patients, and make them understand that they should be under their charge. The physician should continue to treat the patient, but *the civic authorities should be held responsible* for him until he is perfectly harmless. The patient should not be allowed away from a community. All the excreta and discharges should be taken care of. Then, too, perhaps, the government should be held responsible for the laboratory diagnosis and also for the sanitary management of the case, absolutely from the start of the infection. I do not think this is an unreasonable thing to expect. When we realize the trouble the government is taking with some infections, when we realize the mass of money that is spent to prevent the spread of yellow fever or the plague, when we think of how many more lives are lost through the ravages of typhoid fever, and when we think that our hands are practically paralyzed in our attempts to obtain governmental control of these cases, we must marvel at it. They should look after typhoid epidemics as they do after other epidemics.

I had hoped to learn a ready method for disinfecting the urine. Disinfection of the urine is very essential before the patients get from out of our control. Probably we can make the urine sterile by the use of urotropin. In the later stages of the disease and throughout the period of convalescence and until a trained assistant or a government expert shows the urine is free from bacilli these patients should not be lost sight of. The use of urotropin is one of the best methods for preventing as well as curing a complication of typhoid fever, i. e., cystitis; sterilizing the urine is the best aid in the way of prophylaxis.

Dr. DeLancey Rochester, Buffalo—Milk may be infected after leaving the farm, and the source of infection be difficult to trace. In Buffalo, in one of the healthiest districts, ten years ago, four members of the same family were taken ill with typhoid fever within four days of each other, and there was apparently no local reason for it. In looking for the source of the disease the milk supply was investigated. At the farm from which the milk came there was no typhoid. The milk was followed to the city, and the source of infection was found to be at the home of the man who delivered the milk. In his home was a case of typhoid fever; after he received the milk from the farm he had it bottled at his home, the same persons washing the bottles and caring for the typhoid patient. Thus it was accounted for. In his route through the city were found cases of typhoid fever.

In reference to the prevention of typhoid fever, we must remember that we do not know how long organisms persist in the stools after the patient has recovered from the attack. This is one chief source for the spread of the disease which should be borne in mind; after the patient recovers and goes about his business he still may be a source of infection on account of the persistence of the organisms in the stools.

I did not understand whether Dr. Fulton said that the disease was more prevalent in the country than in the cities, or whether the mortality was greater. If the latter, I think it is due to the lack of facilities, for the farmer will not or can not get the necessary nursing for these patients, and the consequence is that they die because they are not properly cared for; in such cases, of course, the physician is not at all at fault. I think the source of mortality in the country districts is to be found in this lack of proper care, or a lack of ability or willingness to care for these patients.

With regard to the disinfection of the urine, Dr. Musser has already referred to the use of urotropin. In three cases of typhoid fever we found the urine free from organisms and apparently in a sterile condition two weeks after the patient had recovered from the disease after giving urotropin; before that time the urine was infected.

With regard to disinfection of the stools, I have found that powdered chlorid of lime thoroughly mixed with each stool is efficacious.

Dr. Wm. Krauss, Memphis, Tenn.—We have a municipal ordinance which requires that every case of typhoid fever be reported, and in accordance with that requirement I reported a case. A lay inspector called and asked if the party had used well water or cistern water and got the address of the milk man. He left no literature or instructions as to the hygienic management of the case. The patient, a young lady, was very fond of ice cream, and would send to a nearby factory for a little paperboxful perhaps once or twice a day, and this was probably the source of infection. I think a municipal health board culpable for entrusting such matters to a policeman. The inspector should be a specially trained medical man.

About ten years ago I kept the records of the board of health in Memphis, and in one year I noticed that the returns for the year were about 270 deaths from malarial fever and 35 deaths from typhoid fever. This was before our public water supply was from artesian wells. Surely this was a wrong proportion of deaths from these two fevers, for in one season I had in my service at St. Joseph's Hospital about 400 cases of fever, in the neighborhood of 200 of which were malarial, of which latter only one died. Most of these patients were from the swamps about Memphis and were in a very bad condition. This would argue that many of the 270 deaths on the records must have been typhoid fever, since malarial fever with us is not so fatal.

Dr. Frank Warner, Columbus, Ohio—It is doubtless true that some cases of typhoid fever develop as a result of an infection acquired in some other way than drinking water; by eating some raw vegetables which have on them some typhoid bacilli, or by any of the several but unusual methods of acquiring the disease. It remains a fact, however, that the number of cases which develop in any other way than by drinking infected water are very few indeed. Then, as this is the usual method of infection, it becomes the duty of physicians everywhere to urge better water supplies in their respective communities. Not only does it become our duty to speak of these things, but also to point out from time to time that the great underlying cause of typhoid fever is the result of an absolute indifference in various communities of the dangers arising from drinking the water that is ordinarily furnished by many municipalities. There needs to be a rude awakening from the absolute indifference to which many communities have fallen. If the people in a community really make up their minds that there is a real danger in an unfiltered public water supply the politicians who operate the places will quickly install the most modern and approved methods of purifying water. They will give any community just as good water as they demand, and no better. It seems to me that it is time we should seek to prevent this disease on a greater scale than mere study and prevention of individual cases. This prevention on a large scale can best be accomplished by the construction of public filtered water supplies. And this filtered water is rendered purest by sand filtration. It is frequently argued against sand filtration that it does not remove all the bacteria of a disease-producing character. This is entirely true. It does remove some 98 or 99 per cent. of the pathogenic germs. Dr. William H. Welch has stated that one is not so likely to develop typhoid fever from drinking water which is only slightly infected with the typhoid germs as where it contains a large number of them. Then, if sand filtration does not remove all germs, and consequently all danger of infection, as it does remove at least 98 per cent. of the germs, it removes an equal per cent. of the danger of infecting the individual drinking the water. The ideal filter plant would remove all germs of a disease-producing character. Inasmuch as this can not be done, we must be content for the present to attain such a great improvement in the purity of a water in a community. And just in proportion that a pure water is furnished to a community, in just that proportion are we meeting the chief indication of prevention of typhoid fever.

Again, I believe that securing of a better water supply in any community should be a part of the labor of the physician and bacteriologist as well as the engineer. And this labor of the physician and bacteriologist should be as liberally paid for as the labor of the engineer. In seeking a water supply the engineer should be aided by the bacteriologist. This aid should not consist, as it does so many times when the engineeer calls such help, in simply examining the water for a time or two, but careful bacteriologic examinations should be made over a considerable period; these examinations should be made under varying conditions, so that a reliable conclusion may be drawn. While it is true that some of the more able sanitary engineers cover these points, still it is the rule that in the establishing of a public water supply the engineer regards it as distinctively an engineering problem rather than a joint undertaking of the engineer and the bacteriologist and physician. When this fact becomes better known and recognized we shall have purer water supplies and less typhoid fever.

Dr. J. N. Hurty, Indianapolis—It seems to me that the question of prophylaxis goes back further than we teach. At first we thought that, after the etiology of the disease had been discovered, all we had to do was to disinfect the dejecta. Now we find that there are clinicians and diagnosticians who do not make out all cases of typhoid fever. We all know that the dejecta carry the typhoid organisms long after the patients are seemingly well, months after in some cases. This fact should teach us something. We must not only disinfect the dejecta, but we must properly dispose of it; if that be done then we will soon abolish typhoid fever. I believe that all intestinal disorders, the germs of which are cultured in the intestines, will spread under certain conditions in the towns and large cities unless we treat and do away with the dejecta. We must filter the water in our towns and cities; and we must see that the dejecta are cared for in a sanitary way, then typhoid fever will certainly be abolished. I have read there was practically no sanitation in the days of Henry VIII, and that at that time the dejecta and slops were thrown into the streets; the proposition to care for them in pits was received with scorn and ridicule. But when the streets were used no longer for dejecta disposal there was a pronounced diminution in the number of cases of disease that arose from such causes; the death rate of typhoid fever and other diseases fell, and health conditions improved, after the human dejecta were cared for in pits. Let us go deeper into the study of this question and let us learn to care properly for all dejecta: then I can promise that the disease will disappear.

Dr. Henry Sewall, Denver—In the prophylaxis of tuberculosis it is admitted that physiologic resistance of the individual to the growth of tubercle bacilli is only second in importance to the exclusion of the bacilli themselves. In the prophylaxis of typhoid fever all sanitary effort seems to be restricted to the exclusion of the germ, and we hear nothing of the means of increasing the vital resistance of the individual after the manner which, in the conflict with tuberculosis, has proved so effective. The development of typhoid fever in a person is very largely determined by his physiologic condition while the typhoid germs lie in his intestines. A man recently under my charge had a mild run of fever for a few days; the Widal test was negative and the attack seemed clearly of "functional" nature. He was allowed to get up and increase his diet after some ten days, when shortly he became seriously ill, the blood test became positive and he nearly died with typhoid fever. Again, a little boy declared himself to have been perfectly well until he ran a foot race, when he was suddenly seized with vomiting and abdominal pain, ushering in a well-marked attack of typhoid fever. In each of these cases the attack of typhoid was exacerbated or precipitated as the result of physical exertion. A large proportion of our typhoid patients come from the hardiest and healthiest class of people. But they fall victims to the disease while engaged in work which upsets their physiologic equilibrium. They are very apt to be compelled to work to fatigue in the intense heat of the sun. It is not hard to imagine that under such conditions the germicidal powers of the gastric juice might deteriorate and the vital resistance of the body fluids and tissues themselves might be reduced. We might, therefore, speak of every individual enjoying, as regards typhoid fever, a certain immunity on a sliding scale. With every physiologic function doing well its co-ordinated task, the typhoid germ may possibly be ingested with impunity; immunity is high.' But let the vital machinery falter ever so little and infection readily occurs; immunity is low.

Dr. Deering J. Roberts, Nashville, Tenn.—Medical science is based on fact and on proof. Theories in medicine arise, spring up, live or die, depending on that idea. You can not build theories and make facts to fit them. Dr. Happel gave you the results of his observations; our work here is the result of observations. He records his observations of facts in his locality. On the other hand, representatives of Johns Hopkins and the University of Pennsylvania tell what they do not see. The microscope will tell you a fact and give the clinician aid when sustained by clinical observations. These men come with statements; Dr. Happel comes with observations. Take the humblest court in the land and submit to the bench two or three credible witnesses and you will be able to establish an observation as a fact. There is one witness from Arkansas. Dr. Witherspoon of Tennessee tells you what he saw. I claim to have seen the same fever for forty years. The Surgeon-General of the United States saw in the Army reports during the sixties something that was not down in the text-books, and he essayed to find out about it, only he went a little bit further and gave it a name. His efforts were sterile, so much so that he took back what he said regarding this fever and said he did not say it. Typhoid-malarial fever belongs to the ages of the past. One gentleman came here and endeavored to prove by therapeutic demonstration that we had a typho-malarial fever, "this and nothing more." You must look at things as they are and not as you wish to have them. I have seen 40 consecutive cases of fever in one season. Five years ago, before the Tennessee State Medical Society, I gave the clinical notes of a fever, "this and nothing more." This was not enteric fever. It ran along and gave an erratic temperature. Some have called it paratyphoid and atypical typhoid, etc. A leopard may change its spots, but still it is a leopard. There are certain characteristics about it which you can always recognize. What constitutes typhoid fever? The bacillus of Eberth must be present. Let the gentlemen with their monoculars and binoculars say what they please; we have the same in the laboratories in Tennessee. We have a series of recorded cases reported and published in the state medical society's transactions, with carefully trained observers, teachers in laboratory work, and in this series of cases the bacillus of Eberth was wanting. We have had it stated by able clinicians that this is a fever with erratic temperatures; that it was not attended by the abdominal symptoms of typhoid fever. I have seen 40 cases lasting 14 days or less, all of the same type. There have been reported 90 successive cases and none went beyond two weeks' duration. This is nothing but fever; let it alone and the patient will get well.

Dr. C. F. Adams, Trenton, N. J.—We have flies and mosquitoes in New Jersey; the mosquitoes are growing less, so is malaria. The Delaware river is a large sewer, and those who live along its banks become infected with typhoid fever. We make our differential diagnosis by taking a drop of blood on a slide for the Widal reaction, and also smear a cover slip for the plasmodium, and mail them to the state laboratory, where they are examined free. We should like to have the government prohibit the use of unfiltered Delaware River water for drinking purposes.

Dr. James Tyson, Philadelphia—I have been surprised that no reference has been made to the easiest and simplest way of making drinking water innocuous, i. e., by boiling. In Philadelphia to-day our hospitals are filled with typhoid fever cases largely to the exclusion of others, and I am sure that very few of these need have had typhoid fever if the drinking water had been boiled. Of course, we must look back to the source of infection. There are times when no filtration will protect the water against the typhoid bacillus; in fact, I believe that it is considered impossible to eliminate entirely the bacillus even when we have the best filtration plants; especially in times of great freshets, when there is a blocking up of the apparatus. If the working people could be taught to use no drinking water that had not been boiled many epidemics would be averted. Of course, the difficulty of doing this is evident, but we as physicians could do much by insisting on this practice, not only among the poor, but among the rich as well, and with all with whom we come in contact. The Schuylkill river water has not a good reputation, but I know of no instance where the disease has been acquired through the use of this drinking water after it was boiled. Boiling will effectually destroy the typhoid bacillus.

Dr. James J. Walsh, New York—A prominent sanitary officer once said that when somebody had typhoid fever somebody ought to be hung. We know that we can contract typhoid fever only from a typhoid fever patient. If that typhoid fever patient is not properly cared for somebody is to be blamed for criminal negligence. In large cities what is to be done?

Take a certain large city, not far from New York, which has had typhoid fever constantly in its midst for the past ten years. Every year there are a large number of deaths and the "boss" of that city has made the boast that he kept back the sanitary plant for a long time because provision had not been made for giving a part of the work to a friend of his. In this city there have been 3,000 deaths during that time from typhoid fever and nothing has been done toward getting a better and purer water supply. This boss has no sense of civic duty. Sanitary plants have been used in Germany for years; in Berlin proper filtration plants had been used thirty years before they had a death from typhoid fever. People on the farms have less death rate than in the city.

With regard to filtration, the little town of Altoona, near Hamburg, did not have a single death from cholera in spite of the fact that they used the water from the Elba. When this disease is communicated to another some one is criminally responsible. We should make the municipal authorities understand that the dangers lie in allowing certain tyrants to continue in control in sanitary work when there is a prolonged outbreak of typhoid fever.

DR. WALTER SHROPSHIRE, Yoakum, Texas—I am surprised at Dr. Tyson's statement that his patients might have avoided typhoid fever by boiling their drinking water, suggesting water as the only means of conveying the disease. In the town where I live, with a population of 6,000, there are 50 or more cases of typhoid fever each year. These people without exception use water from an artesian well, 1,400 feet deep, which is pumped direct into the mains and is never exposed to the atmosphere till drawn from the hydrant for drinking. If these people get typhoid fever through their drinking water I am unable to see how the bacilli get into it. Two years ago there was a case of typhoid fever near me treated by one who did not have the dejecta properly cared for, permitting it to be thrown out on the ground surface, this being in early summer when the ground was dry and dusty. Immediately following this case I treated 15 others within a radius of 300 yards of it, whose infection was traceable to this focus, and they could not have obtained the poison through water, for it was drawn from the hydrant and used immediately. I recall an experience of 12 years ago, when I treated a case of typhoid in December, and was unable to have any disinfectant used at all. The nurse simply threw the dejecta out in the back yard. During the balance of December, January, February, March and April we had no typhoid fever in that neighborhood. During May we had a drouth and the surface became dry and dust was prevalent, being carried by a prevailing southeast wind. The dry weather had existed not more than two weeks when typhoid began developing around this focus, and I treated 73 cases within a radius of 300 yards of it; and seven-tenths of them were to the northwest where the prevailing wind carried the dust from this infected focus. These people all used different water from surface wells about 70 feet deep and through a heavy clay and light rock strata. Now, if these people were infected through their drinking water why were there no cases through the five rainy months, when the earth surface was wet and why such preponderance of cases to the northwest where the prevailing wind would carry the dust from this infected focus? And if it be conceded that the spores were carried in dust by the wind and infected their drinking water, why could it not as well infect articles of food and thus reach the intestines of the individual? I am convinced that the dust was the means of infection in these cases as well as in many others. Again, our Spanish-American war demonstrated conclusively that flies can and do carry the infection, and Dr. Alice Hamilton of Chicago read a paper before this Association a year ago forcibly portraying the fact that flies do carry the infection. With such facts before us I think even Dr. Tyson should modify his remarks on the subject.

DR. T. J. HAPPEL, Trenton, Tenn.—The discussion of this morning has been on typhoid fever, not on the paper read by me on Tuesday.* The object of my paper was not to discuss the subject of typhoid fever, but to report cases of a fever occurring in my practice, which were cases of neither a typhoid nor a malarial fever.

I do not claim that there is no typhoid fever in the section of Tennessee in which I live, but in my own town it has almost entirely disappeared. We have not had a case of it for years. We account for our peculiar exemption from the fact that all of our drinking water is filtered through a vast bed of sand underlying our town. Some geologist claims that we are located over what in ages past was a large body of water which has been replaced by sand, and through this sand of an unknown depth our water filters, rendering it almost perfectly pure. While in our immediate neighborhood we have no typhoid fever, yet in certain sections of our county typical cases of typhoid fever are found.

When the cases reported to me are referred to as "atypical," "paratyphoid," etc., you are begging the question. In reference to microscopic examinations in these cases, I stated that examinations had been made in 138 cases of this fever by persons who had the reputation of being skilled in the use of the microscope and in laboratory work. Thus my clinical observations were not left unsupported. One person discussing the paper suggested that the variations in temperature were due to the use of the coal-tar derivatives. The coal-tar products are never used by me except in those cases where I have failed to reduce the temperature by water and other febrifuges. In not one of the 100 cases which have come under my care has there been any tendency to hemorrhage. One member of the section referred to the fact that he had cured cases of this type by a certain routine medication, but my paper referred only incidentally to the subject of treatment. In the closing lines of the paper I mentioned the fact that I used guaiacol carbonate in treating these cases the last season. If cases of this type of fever are let alone and nursed well they recover without or in spite of medicine. One of my patients recovered who was given by her mother on one occasion a box of sardines and allowed to eat them all at one time. At another time this same child during the third week of her fever was fed enough biscuits to have surfeited a well person. Had this been a case of typhoid fever we would probably have had a funeral. I have treated two cases of this fever in pregnant females, one five months advanced, the other seven. Both miscarried, and on the day following the miscarriage the temperature in both cases fell to normal and never went above that point again. Both made uneventful recoveries, a very different result so far as my experience has gone with typhoid fever under similar circumstances.

I wish again to emphasize the fact that the cases reported by me did not present a single characteristic symptom of typhoid fever.

DR. JOHN S. FULTON, Baltimore—I regret that any one should have misinterpreted my demonstration of the higher mortality of typhoid in rural districts as a reflection on the rural physician's skill. I know nothing about the comparative case mortality as between town and country, and I assume that the higher absolute mortality in the rural districts means a correspondingly higher morbidity. No other conclusion can be drawn from the evidence. In treating cases of typhoid fever the city physician has, so far as I know, but a single advantage over his fellow in the country, and that advantage is in skilled nursing. The trained nurse may, perhaps, profit the case mortality by the 1 or 1.5 per cent., but in my opinion the chief profit of trained nursing lies in the control of morbidity.

I take occasion to say now what I did not say in my paper, that the trained nurse, proportionately to the numerical strength of her profession, opposes more effective barriers to the spread of typhoid than does the practicing physician. That may be construed as a criticism of the profession and may be added to the other criticism of a 48 per cent. default of professional skill in the diagnosis of typhoid.

I did not intend in my paper to touch the minutiæ of prophylaxis, but I am glad that the discussion brought out the very central problem of disinfecting stools. A disinfectant for fecal matter should be first effective, and after that must be cheap, rapid, safe and convenient. No agent yet proposed meets all these requirements or even a majority of them. I am inclined to regard quicklime or air-slaked lime as the most generally available disinfecting agent for typhoid excreta.

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* See THE JOURNAL, July 11, 1903, pp. 82 to 96.

But above all things I want to impress the Association with the testimony of the profession itself, shown here in graphic form, and supporting, as I think, in the most convincing manner and for the whole United States, the testimony of the U. S. Army Commission that the medical men of the land habitually misinterpret the continued fevers of the United States. This is a definite and insistent challenge at the very threshold of the prophylaxis of these fevers. What will you do about it?

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# SHALL WE OPERATE ON DEFORMED SEPTA IN CASES OF ATROPHIC RHINITIS?*

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Much has been written about this very greatly afflicted class of patients, and little has been accomplished. They should receive our best care for their own good and for the relief of the people with whom they come in contact. True, our horizon is the limit of our vision. The atrophic patient does not know the pleasure derived through the sense of smell; at the same time he does not appreciate the disgusting foul smell which makes him an undesirable member of society. The ancient Greeks considered ozena a good and sufficient cause for divorce. It was also considered a bar to the priesthood. Surely we may well advise against transmission to future generations.

Where a patient is convinced that he is an offense wherever he goes much has been done to gain the necessary perseverance in treatment. With eternal vigilance on the part of both physician and patient, results may be accomplished—a percentage of cures and the abolition of foul odors. The knowledge that we are shunned because of some avoidable defect in ourselves is about the greatest stimulus that can influence us.

Sclerosis or atrophy, without crusts or excessive secretion, due to overwork and pressure, is more advanced on the roomy side and in the inferior turbinals, the middle turbinals often being hypertrophied. Pressure on the tissues and an effort to perform normal function constantly irritate the narrow side, while the overwork and too free passage of air irritate the roomy side. Deflected septa plus spurs and ridges with enlarged pharyngeal tonsils are the local causes which lead to this condition. If this class of cases only is considered I am inclined to agree with the writers who claim that atrophy is a purely local condition, not dependent on other diseased conditions. I also believe that it is readily and quickly cured or much improved by the removal of the pharyngeal tonsil and by equalizing as nearly as possible the nasal space by correcting the deflected septum and removing ridges and spurs.

Add to the above local conditions a depraved constitutional inheritance and there results the class of cases generally recognized as atrophy. With the great loss of tissue, particularly turbinal tissues, all of which are involved, a very different picture is presented—marked ozena of a musty character, excessive secretion and crusts, with usually complete loss of smell. There is frequently a large lingual tonsil with little or no enlargement of the pharyngeal tonsil, a generally depraved constitutional condition, deranged stomach and bowels, irritable bladder, severe headaches, etc.

From careful observation and study of these cases I am convinced that heredity plays a very important—if not the most important—part in their production. Usually more than one member of a family is afflicted; and, if the inheritance is not direct from mother or father, investigation will trace it to uncles and aunts or to grandparents. One or more members of a family may have marked atrophy while others are subject only to frequent attacks of purulent rhinitis. In the absence of these local or constitutional causes repeated attacks of purulent rhinitis never develop atrophy.

The moderately enlarged pharyngeal tonsil is usually beneficial and many hesitate to remove it. In time past most operators have objected to correcting septal deformities for fear of added destruction of tissue in a space already too roomy, claiming that the spurs, ridges, etc., are a benefit. Perhaps they would be a benefit if they equalized the space and if they did not tend to the retention and difficult removal of the secretion. The retained secretion is a constant menace to the entire respiratory tract, accessory sinuses, and, in fact, to the whole system. The general and local conditions react on each other, and probably more depends on the local than on the constitutional treatment for the general improvement. At the same time, the better the general condition the more rapidly will the local condition respond to treatment. I have had several cases in which constitutional treatment had been given for years with little success in relieving the general condition; and local treatment alone relieved all the symptoms of stomach, bladder, etc.

Please do not understand me to advocate neglect of any of the cleansing, disinfecting and stimulating treatment which is so necessary in these cases and which must not be left entirely to the patient. The skilled physician can see and remove much secretion not within the reach of the patient. The more thorough the cleansing the more rapid will be the improvement. I do wish to urge securing the best possible local condition.

After a careful study of the cases and a few thorough cleansings, operate. Operate first on the sinuses of the roomy side if they are involved. As completely as possible correct the septal deflections, removing only the thickenings necessary to bring the septum into the median line. Later smooth up the septum as the individual case may demand. The tissues have not the recuperative power of normal nasal tissues, and much care must be used in the operation, not only to remove as little tissue as possible to gain the desired correction but to make no undue or unequal pressure, especially on the cartilages. Change the splint frequently and continue its use the shortest time possible. Never use a pin in an atrophic septum. A pin will often cause perforation in twenty-four hours and, once formed, the conditions are not favorable to its closure. Stimulate all cut edges to secure an over, rather than an under, inflammatory reaction. Excessive granulation tissue can easily be removed. With these precautions I am confident that operative interference will hasten the cure of atrophic cases.

The earlier in the course of the disease the operation is done the quicker and the better are results. I have yet to operate on a patient that does not see and admit benefit from the operation, as shown in the more rapid local and constitutional improvement and the greater ease with which the parts are cleansed. It is useless to cite cases, as all tell practically the same story. My private patients have possibly given the better results, as they have continued treatment a longer time and have been more thorough in their part of it.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

In the rare instances in which the process has run its course with complete destruction of the turbinal tissue and cessation of abnormal secretion and crusts it is probably wise to let well enough alone. I have seen not more than a half dozen such cases.

In going over more than 3,000 cases I find that deflected septa, with or without spurs and ridges, are almost invariably associated with loss of turbinal tissue; that in true atrophy it is the rule to find one fossa more roomy than the other and the atrophic process more advanced on the roomy side. The ages range from 3 years to 79. Occupation seems to have little influence in etiology, but good air hastens recovery as much as in any other condition. About 67 per cent. are women in my collection of cases. This percentage is doubtless too large, and means that women are more apt than men to seek relief when suffering from the condition.

Let me urge for the good of society at large the thorough treatment of atrophic cases and that the operative side be not neglected.

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# THE DISTRIBUTION OF BLOOD VESSELS IN THE LABYRINTH OF THE EAR.*

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The course of the blood stream through the labyrinth of the ear has been a subject of considerable uncertainty and difference of opinion among anatomists. The reasons are obvious, for the complicated series of cavities that go to make up the labyrinth of the ear makes the study of the blood supply by the ordinary method from sections very inaccurate, unless laborious methods of reconstruction are used. This element of difficulty was successfully overcome, however, when Eichler introduced the method of making celloidin casts of the labyrinth in which the circulation could be viewed in its entirety. But with this accomplished, and with such a complete picture of the blood supply before one, the complicated network of vessels found in the labyrinth of the adult ear is, in many places, very difficult if not quite impossible to disentangle with any degree of accuracy.

The arteries offer the chief difficulty, for in the fully-developed ear these vessels undergo a remarkable series of windings and convolutions which have been designated by Schwalbe as "glomeruli." It was found, however, that in the younger stages of the embryo the arteries are perfectly straight and simple, as are the veins. In this work the circulation in the labyrinth of the ear has been worked out, using the simpler scheme found in the younger embryos to interpret, when necessary, the more complicated system found in the adult.

The material used was the embryo pig. An unlimited supply of fresh material gave ample opportunity for experimenting with methods of injection until satisfactory preparations could be obtained in sufficient numbers for study. An aqueous solution of Prussian blue was used as injecting medium. This penetrates readily the capillaries, and with this fluid it is possible to get complete injection of the arteries, veins and capillaries. The differentiation between arteries, veins and capillaries in these preparations where but one injection was used, can be made out by carefully studying the preparations.

The method chiefly used in this work was that introduced by Oswald Eichler of making celloidin casts of the labyrinth from preparations that have been previously injected. Among the large series of preparations made were a few where the arterial tree alone was injected and several where the venous tree alone was filled. In most of the preparations both the arteries and the veins were filled as well as the capillaries. In addition to the celloidin casts, thick sections were made of the injected decalcified labyrinth in order to verify certain points about which there was an element of doubt from the study of the casts.

The results of the work can be expressed briefly as follows:

1. But one artery, the labyrinthine, supplies the labyrinth in the ear of the pig. This vessel enters the labyrinth along with the auditory nerve through the meatus acusticus internus. A single vein, the vena canaliculi cochleæ, drains the labyrinth, leaving, along with the canaliculus cochleæ, at a point distinct from that at which the artery enters.

2. The several divisions of the labyrinthine artery which go to supply the cochlea anastomose freely with each other through a number of anastomotic loops or arcades at the base of the cochlea, thus insuring for each part a blood supply reinforced freely from each division.

3. The arterial supply to the cochlea is arranged on such a plan that, as a rule, the vessels which send out the arteries to supply the scala vestibuli of a coil send out another set of arteries which supply the lamina spiralis of the coil next above. The arrangement usually described for the human ear, where the arteries for the scala vestibuli and for the lamina spiralis of the same coil comes from the same vessel, is found in the cochlea of the pig's ear, but only as the exception.

4. The venous blood of the cochlea drains entirely into the vena canaliculi cochleæ. The veins from the ligamentum spirale of the first half of the basal coil are collected into a large trunk which runs along the middle of the under surface of the basal coil to empty into the vena canaliculi cochleæ. The veins from the remainder of the basal coil are collected into the posterior spiral vein which runs along the posterior inner margin of the coil.

5. The venous blood from the upper coils of the cochlea is collected by a tributary of the posterior spiral vein. This vein in its beginning follows the spiral direction of the upper coil. It then passes directly downward through the modiolus to join the posterior spiral vein, receiving tributaries from the upper coils which converge toward this central vessel. The anterior spiral vein which Siebenmann found in the cochlea of the human ear does not exist in the ear of the pig.

6. The veins which lie between the coils of the cochlea are supplied by two sets of tributaries, one of which collects the blood from the scala vestibuli of the coil

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen. The detailed report of this research, from the Laboratory of Anatomy, University of Chicago, will appear with illustrations in the Decennial Publications of the University of Chicago.

beneath, and the other from the scala tympani of the coil above.

7. The so-called spiral veins of the cochlea, which are usually described running under the tunnel of corti, in the crista spiralis, in the crista of the ligamentum spirale and in the prominentia spiralis, are formed in the ear of the pig from capillary loops which form the boundary line for distinct capillary areas in these parts.

8. There was often found in the cochlea of the pig's ear a connection between the vessels of the lamina spiralis and those of the ligamentum spirale. This connecting link consisted of straight veins which ran from the terminal loops under the tunnel of Corti across to the veins in the crista of the ligamentum spirale, and were found in the terminal coil as well as in the basal coil.

9. The arterial supply for the vestibule and the semicircular canals comes in part from the anterior vestibular artery, and in part from arteries which spring from the anastomotic loops between the arterial trunks which supply the cochlea.

10. The venous blood from the vestibule and the semicircular canals is collected into two large trunks which empty into the vena canaliculi cochleæ. This is in striking contrast to the condition found by Siebenmann and Eichler in the human ear, where the veins from the semicircular canals left the labyrinth with the aqueductus vestibuli.

11. The capillaries are distributed almost exclusively to the membranous labyrinth. In the semicircular canals this is shown the most clearly. Here the capillaries surround the membranous canal while the vein runs along its inner concave surface, and the artery, for the most part, clings to the inner concave surface of the osseus canal, sending an occasional twig to the capillary loops around the membranous tube.

12. The capillary loops of the membranous semicircular canals do not, as a rule, completely surround this tube, but leave a zone along its convex surface free from vessels except for an occasional connecting loop which runs across this space.

## PROFESSIONAL RESPONSIBILITIES.*

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While this is a hackneyed subject, it is one on which we ought to devote a great deal of thought. We stand before the public and the general profession as the guardians of the entrance to the alimentary canal, and these responsibilities laid on us determine many things in connection with the general health of our patrons. I am not unmindful that while we occupy a very limited field as to the actual work which we do, the far-reaching effect of the work, or lack of it, is easily demonstrable. It seems to me that we fall short of a just and broad comprehension of our responsibilities in many instances.

These responsibilities begin in our advising our patrons as to the care and carefulness with which the temporary teeth of the little ones should be protected, as well as advising as to the care of the permanent teeth which obtain in later years.

In former papers before this and other gatherings I have urged on the general profession as well as on our special department the care which should be bestowed on the deciduous teeth. It doubtless is overlooked by many general practitioners and, judging from my observation, by even many in our special field that the teeth of the growing child should be kept more carefully even than the teeth of the adult. A reason apparent to all is that while in adult life nutrition is necessary only to make up for the waste of tissues, in the growing child there are many reasons why added nutrition should be obtained, chief among which may be mentioned the waste tissues which must be made up are fully as large in proportion as in the adult, while with the child there is a rapid development of the general system requiring much additional nutriment. Indirectly, there are many other reasons, among which are these: A child has a vigorous and almost unlimited appetite; if these deciduous molar teeth are allowed to become sensitive, painful or lost, the mastication of the child is necessarily hampered, and it is an axiom that a child will never masticate food if by so doing pain is caused. They very early in life learn that despicable habit of "bolting" their food with but little or no mastication, if mastication is in any way disagreeable, thus fixing on them a habit for life which is conducive to many of the ills of indigestion and malnutrition. A still further reason is the fact that all teeth in the mouth at all ages have a tendency to move toward the median line of the mouth, hence if one of these deciduous teeth is extracted before its successor is ready to erupt, the teeth behind will move toward the front, thus preventing the proper eruption and corresponding development and expansion of the arch, and causing the coming in of the teeth in abnormal positions, and creating irregularity and its subsequent ills.

I have always urged on the general profession and our special department that exceeding care should be given to the deciduous molar teeth, and that we should advise our patrons to urge on the child a thorough use of the brush. There should be frequent inspections of these teeth, and whenever a suspicion of decay invades them immediate professional attention should be given. If they are preserved in a healthful condition, mastication can be performed fully, so that the ills resulting from "bolting" of food may not invade the stomach of the little patient, bringing on it the ills of indigestion. We frequently recognize that in the case of a very nervous little one the only trouble, probably, is dyspepsia caused by lack of the above attentions, so that I would urge on the members of our specialty that most careful attention be given to these teeth until the time for them to be replaced by the permanent bicuspids, as well as that very great care should be observed in attention to the first permanent molar which is erupted at about the sixth year of age, and the molars which are subsequently erupted posteriorly thereto.

This first permanent molar we all recognize is the abutment of the arch, and is from its location, position, size and attachments, the most important tooth of the mouth to be preserved at this or any subsequent period. The loss of this tooth, or lack of attention thereto, as well as the lack of care of the deciduous molars, in my belief, produces most of these cases of irregularities and deformities of the lower part of the face, Nature having evidently intended that the lower part of the face should be developed and expansion thereto attained by the gradual wedging in and pushing apart of the alveolar process by the eruption of the larger teeth of the permanent set.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

I would also condemn a custom which may be illustrated by the following experience: A professional man of a neighboring city, whose record for general professional standing is high, had had a patient under his care for many years. The family recently removed to Chicago and this patient fell under my care, and on my calling his attention to many small cavities in the teeth he explained that his former attendant had said that he knew there were many small cavities, but that it would be better to wait and fill them later. This is to my mind one of the greatest fallacies and one which obtains more largely than is generally admitted. My belief is that whenever we have an opportunity to examine a patient's mouth we should give it a most rigid, careful and thorough inspection, calling the patient's attention to every defect which can be found by such a careful inspection and urging on him the importance of early attention thereto. Especially would I suggest that, if any teeth are left unattended to, they should be those which have large cavities; in other words, I would urge that the teeth attended to should be at least those which have the small cavities, thus preventing them from getting bad. It is a common expression of mine to such patients: "If for any reason you wish only two or three teeth filled and wish those to be the ones which need it the most, I will immediately, after careful inspection, fill the three teeth which have the smallest observable points of decay, thus preserving those teeth from becoming bad, and the very bad ones will only get a little worse." This will illustrate my position perhaps as well as could be otherwise expressed.

My observation has led me to believe that many members of our specialty do not recognize the importance of thus acting. In fact, my attention has been called by several men of prominence to the fact that by so doing one gets the name of being a high-priced dentist, and is thus marked for being shunned, when as a matter of fact such practice, while it causes much more work to be done at the time, saves a great amount of work in subsequent sittings of the same patient, as observed in a practice extending over a large number of years

I believe that we have large responsibilities also in careful observation of the relations which are borne by the teeth, their eruption, care, or lack of care, to the general health of the patient as well as reflex disturbances which may be brought about by this irritation being reflected and observed in other of the special organs of the head. Cases could be cited which would illustrate this, but I think that this matter is generally accepted as true by the profession at large, but sufficient care and thoroughness is not observed in a general way as to the minute observations of this rule in general practice.

Another responsibility which we face is that of supplying a masticating apparatus when the natural teeth and roots, or at least many of them, have been lost. Crowns and bridge work are, or may be, made most useful as a conserver or restorer of health when a lack of mastication has caused disordered digestion and the accompanying ills, and yet a note of warning should be sounded that bridge work or crowns may by improper adjustment be made to cause the very ills which they were intended to rectify. Very great care and thoughtfulness must be bestowed on bridge work and crowns to see that the articulation is made natural, and that the force of mastication may be on the lines of natural resistance which would have obtained had the natural teeth not been lost. I have seen many bridges which were absolutely useless in themselves, and which have caused the loss of many of the abutments thereto, thus making the last condition of the patient worse than the first. Our effort should always be to advise and recommend to our patients those things which we feel assured will be for the permanent welfare of the patient, never allowing ourselves to be misled by any suggestion or any wish of the patient to have cheap, or over-expensive, work done, if in our belief such work is unwarranted for permanent results.

Summarizing, I would urge early attention to deciduous molar teeth, great care and carefulness of the so-called six-year-old or first permanent molar, very thorough examinations of teeth always and early operation on any evidences of decay in any of the teeth at these or subsequent periods, and very great care observed as to recommendations of crowns or bridges, or any other artificial substitute, and a very careful observation as to reflex effects on other organs and tissues resulting from irritation in the mouth and teeth. These are a few of the many things which we should feel are responsibilities laid at our door for the protection and benefit of humanity at large.

34 Washington Street.

## DISCUSSION.

**MR. T. E. CONSTANT**, Scarborough, England—I agree with Dr. Baldwin on the necessity for the care of children's teeth. Dentists fully recognize its importance, but in England, and perhaps also in the United States, the majority of the members of the medical profession do not systematically examine the teeth of children under their care and, when it is necessary, recommend them to consult a dentist. If this were done many infantile troubles would be avoided, and by preserving the temporary teeth a great deal of work subsequently done by dentists in the way of regulation of permanent teeth would be rendered unnecessary. Many troubles are dependent on neglected conditions of the teeth in adults. When connected with a general hospital I had many opportunities of seeing incipient gastric ulcer. In almost all the cases the teeth were in very bad condition. In the prehemorrhagic stage of gastric ulcer, patients treated in the general hospital were relieved without any attention to the mouth, but with careful dieting, etc. It is the experience of physicians in England—I have not been able to demonstrate it—that careful repair of dental decay, removal of suppurating roots, and careful attention to the hygiene of the mouth have cured the patients without further medicinal treatment; and that, so long as the aseptic condition of the oral cavity was preserved by the patient after leaving the hospital, the gastritis has not recurred. It seems, perhaps, a bold thing to say, but, in my opinion, the majority of cases of severe gastritis in young women are due to defective oral hygiene. I therefore think the point in the paper is well taken.

**DR. T. L. GILMER**, Chicago—We do not get hold of children sufficiently early. As soon as the teeth have erupted we ought to see the children regularly for examination. We frequently have children brought to us with the teeth decayed to the extent of an uncovered pulp, and with a child of nervous temperament it is no wonder, under such circumstances, that extractions are made. I therefore insist that the children shall be brought to me, not only to examine for decay, but to see whether the caretaker in the home is giving proper attention to the dental organs and to the mouth. I believe I have in this way saved many more teeth by the prevention of decay than by filling. Prophylaxis, if intelligently carried out, will do a wonderful amount of good. It is the dentist's duty to examine not only the dental organs of his patients, both young and adult, coming for examination, but to scrutinize every part of the oral cavity. If we do otherwise we are unworthy the name of professional men. If the laryngologist examined only for one diseased condition he would hardly be considered a valuable man to his patients. Not long since, in examining the mouth of a patient, I discovered under the tongue a stone in Wharton's duct which had been overlooked. This calcareous deposit had caused a serious condition of the submaxillary *salivary gland.* The patient might have been spared this trouble had the family dentist kept close watch over all of the mouth, instead of only examining the dental organs.

**Dr. Eugene S. Talbot**, Chicago—If there is any one time in the life of the child when oral hygiene should be at its best, it is at the time of the eruption of the temporary teeth. In my studies on evolution it is noted that the face, the jaws and the teeth are changed from generation to generation. To a certain extent the nationality of an individual may be judged by the evolution of the head and face. I believe in these transitory structures the conditions in the mouth, decay of teeth, etc., are very apt to occur. It is at the time of the eruption of the temporary teeth we have what I have termed the second period of stress. These periods of stress are very much on the same order as people speak of the systemic changes every seven years. At this time the dentist has an idea that all diseases of the human body revolve around the teeth, and to a certain extent this is true; but he forgets that the mucous membrane throughout the body is undergoing a great change at the same time. Up to this the child has been taking liquid food, the system is now preparing itself for harder food, and the cells of the mucous membrane are undergoing a great change. Therefore, as the essayist has stated, the greatest care of the teeth should be taken at this time. I do not agree with Weissman regarding the non-inheritance of acquired defects. I do believe in the inheritance of acquired defects, and have proved the theory. In Mississippi, and I suppose in other parts of the South, and in England, the habit is to extract the first permanent molar, especially if it be decayed; in the South it is customary to extract it on general principles; the reason being that the extraction of this tooth allows the others to erupt in a normal condition. This particular point is important because of the transitory nature of the jaws. Continuous extraction has a tendency to produce arrest of development, the inheritance of acquired defects. It is, therefore, a cause of irregularities of the teeth as seen in England, which is further intensified from generation to generation.

**Dr. G. L. Curtis**, New York—I can verify from my own observations Mr. Constant's remarks in relation to diseases of the throat. I believe that a very large portion of the work done by specialists of the throat becomes necessary because of the pathologic condition of the teeth. Children should be taken to the dentist for examination and treatment early in life and often, at least every three months, and if the dentist finds disease of the throat he should direct the patient to the proper person for treatment. A specialist in diseases of the throat once met me in the street and said: "I shall soon have to send you a percentage of my income." I asked him why, and he replied, "Because you send me more patients than all the other dentists in the city put together." That remark stimulated me to a closer observation of the nose and throat of a patient, but I refused to accept any percentage. I think extraction of the six-year molar is generally a lazy man's way of avoiding work. I believe it should never be done except where the child's tooth is abscessed, and in many cases not then. There are, however, individual characteristics that may require special treatment.

**Dr. M. L. Rhein**, New York—The necessity, for men who assume the position of caring for the teeth, of realizing their responsibility, can not be too strongly urged. It is my invariable rule to pay absolutely no attention to the suggestions or directions of people coming to me until I have made a thorough examination. I then inform them of what I deem advisable to be done, and if it does not meet their wishes our relations end at that point. I believe that is the only truly professional line of conduct. This, I think, differentiates between what we are pleased to call stomatologists and dentists.

**Dr. W. E. Walker**, New Orleans—We do not always "see ourselves as others see us." I did not know that it was the practice of England and the South to sacrifice the first permanent molar. This extraction does occur here I am aware, but I judge from articles written on it that this is practiced elsewhere. Here I know it is too common. In regard to examining the whole mouth instead of looking simply at the tooth to which attention is directed by the patient, that this practice is not sufficiently common among dentists has been impressed on me by the surprise occasionally manifested by a patient when I have proceeded to examine the whole oral cavity rather than simply the tooth complained of.

**Dr. M. L. Rhein**—I agree with Dr. Walker that there is as much extraction of the first permanent molar in the East and West as in the South. There is no warrant for the removal of the first permanent molar.

**Dr. George F. Eames**, Boston—This subject should be brought to the attention of the general practitioner and of other specialists that patients may be advised in regard to oral conditions. It should also be brought to the attention of laymen. The subject of the relation of the local conditions in the mouth to the general health I consider of the greatest importance.

**Dr. A. E. Baldwin**—In a paper of this kind one can only touch on the different subjects. I would especially emphasize what Dr. Gilmer has said of not having opportunity to see patients sufficiently early. As Dr. Eames has said, there are relations to be recognized. Our object should be to unify all the departments of the healing art in one great whole.

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# TOLERANCE OF THE TISSUES TO FOREIGN BODIES,

## WITH SPECIAL REFERENCE TO THE PULP AND GUMS.*

M. H. FLETCHER, M.D., D.D.S.
CINCINNATI.

The reason that one foreign substance within the tissues is more or less irritating than another, is to be determined not alone by the character of the substance but also by how it influences the cells of the tissues involved. That environment influences cell life is well known. Aside from the effect of their food, cells may be influenced by temperature, electrically, by chemicals and mechanically. Our present purpose is to consider mechanical irritants.

In treatises on gunshot wounds it is presumed that the bullet is of lead, and the practice almost universally advised is to leave the ball undisturbed if it is not easily found. There is an adage generally recognized to the effect that "when a bullet has ceased to move it has ceased to do harm." The accompanying specimens (Figs. 1 and 2) of elephant's tusks, No. 1 with a lead bullet encapsulated, No. 2 with an iron bullet rolling about in what seems to have been a pus cavity, shows the different effects these two metals may have on living tissue (assuming the conditions to have been the same). These bullets, which have been shot at the animal's head, have penetrated the pulp chamber of the tusk, the animal living long enough afterward for the bullet to become encapsulated in ivory (Fig. 1) or produce a pathologic cavity (Fig. 2).

The protrusion of a broken breach from the apex of the root of a pulpless tooth, seems invariably to cause an abscess, whereas the protrusion of a gutta percha point apparently causes no trouble. A number of years ago Gunn suggested the use of beeswax for packing wounds in place of other dressings and it is found to be a good procedure, the wax being unirritating to granular surfaces. Four years ago Gersuny of Vienna demonstrated the practibility of injecting even large quantities of paraffin and vaselin into the tissues for therapeutic as well as for prosthetic purposes.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

I have been using softened gutta percha as a therapeutic measure in bone cavities for a number of years. My attention was first drawn to this feature seventeen years ago by having inadvertently injected too much "chloropercha" (gutta percha dissolved in chloroform) through a pulpless tooth into a blind abscess. A tumor of this material the size of a pea could be felt at the apex of the tooth, and since it caused no inflammation and produced no trouble it was allowed to remain undisturbed; it is there to-day, and has never caused the least disturbance. I believe it is the practice of many dental surgeons to inject this dissolved material through pulpless teeth until it appears at the fistulous opening, expecting the tissues to heal quicker by this treatment than by any other (Fig. 3).

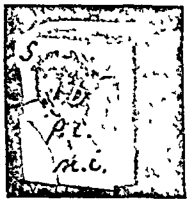

Fig 1

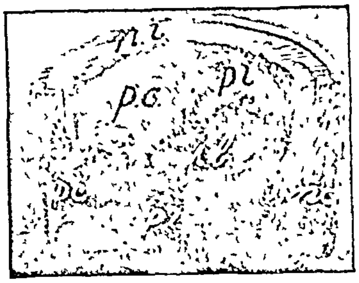

Fig. 2.

Fig. 1.—Block of ivory from elephant's tusk, with lead bullet completely encapsulated. n. i., normal ivory; p. i., pathologic ivory; l b, lead bullet; s, place where section shown in Figure 6 was taken.

Fig. 2.—Block of ivory from elephant's tusk, with iron bullet in pus cavity. n. i., normal ivory; p. i., pathologic ivory; p. c., pus cavity; i. b., iron bullet.

Caseous pus may become encapsulated and remain apparently harmless until finally absorbed.

Trichina in small numbers no doubt could remain indefinitely in the tissues without their presence being known, for they are most beautifully taken care of, as the accompanying picture shows (Fig. 4).

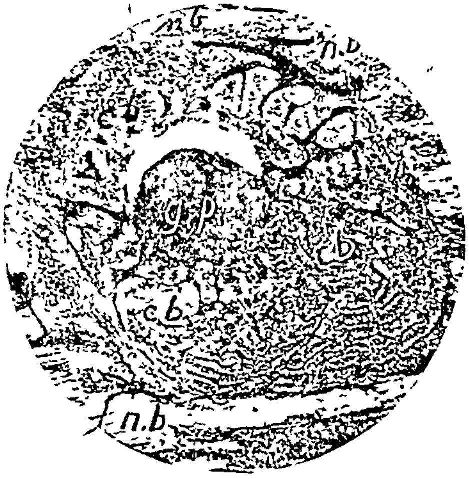

Fig. 3—Section of bone after recovery from implantation of a dog's tooth in a goat's jaw, ×10. g. p., encapsulated gutta-percha which had been placed in the root canal of the implanted tooth, n. b, normal bone; c. b., cicatricial bone.

Steel needles may wander through the flesh without pain and without apparent damage. Dr. P. S. Conner is authority for the statement that a knife blade may be tolerated in the same manner, and says that iron balls, fragments of shells, splinters, and, in fact, almost any foreign material, if not accompanied by septic matter, may become encapsulated, but also agrees that softer, more yielding substances, which are impervious to moisture, are less irritating.

We will assume then, that, as foreign bodies, certain substances are, *per se*, noxious or innoxious in degrees proportionate to their physical properties. Those that are most innoxious are impervious to moisture and more or less yielding in character. Hard smooth substances like a needle or knife blade may be tolerated, but if they become oxidized or roughened by chemical action they then seem to produce trouble. Hard rough substances of any kind seem more irritating than a soft pliable material, providing the latter be impervious to moisture; pieces of cloth or bits of wood seem especially noxious for reasons which may be explained.

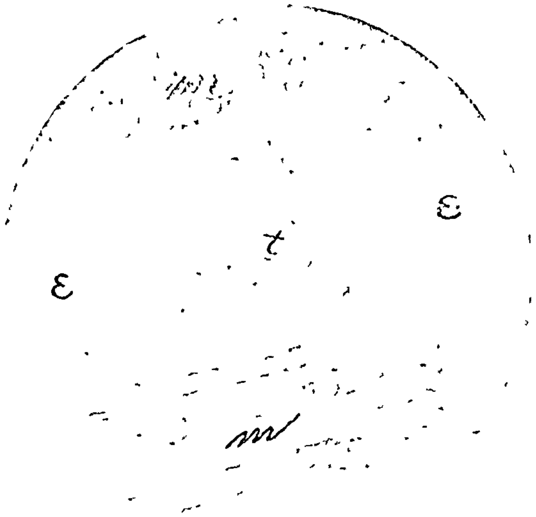

Fig. 4.—Trichina in muscle of a cat. ×50. t., trichina; m., muscular tissue; e., encapsulating material.

Foreign bodies may be classified as extrinsic or intrinsic, according to whether they are forced into the body from without, or whether they were part of the body, or produced within.

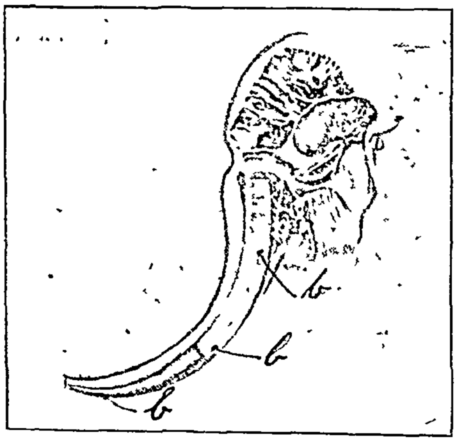

Fig. 5—Diagram from Owen; showing how a bullet lodged in the pulp chamber of a tusk is finally discharged near the point. b, bullet in different positions as the tusk grows longer.

Intrinsic foreign bodies may include dead tissue of any character, sequestra, pulpless teeth, calcareous or phosphatic deposits; these deposits when found about the necks of the teeth are always rough and irritating, and are so situated that bacteria have free access to the irritated tissues.

### THE PULP.

In teeth of persistent growth the pulp practically remains one size and is more or less cone-shaped, with its apex directed to the grinding surface and into the long axis of the tooth the base of the pulp is at the source of supply, as shown in the elephant's tusk (Fig. 5). When an injury occurs to such a pulp it has every chance of recovery that other tissues have, because of collateral circulation. If the irritant be an extrinsic body (as shown in the elephant's tusk) it is finally pushed beyond the zone of the pulp (Fig. 5) and the formation of dentin proceeds regularly as before (Fig. 6). This is true of all tusks and the incisors of all rodents.

In mature teeth of limited growth, as found in man, these conditions are reversed; the apex of the pulp is directed to the apex of the root and the blood and nerve supply is limited to the minimum amount necessary to the life of the pulp, so that in case of injury there is no collateral circulation or nerve supply for purposes of rapid repair, such as may be found in other tissues, hence the great number of pulpless teeth in human beings, where lesions of the pulp far outnumber those of any other animal.

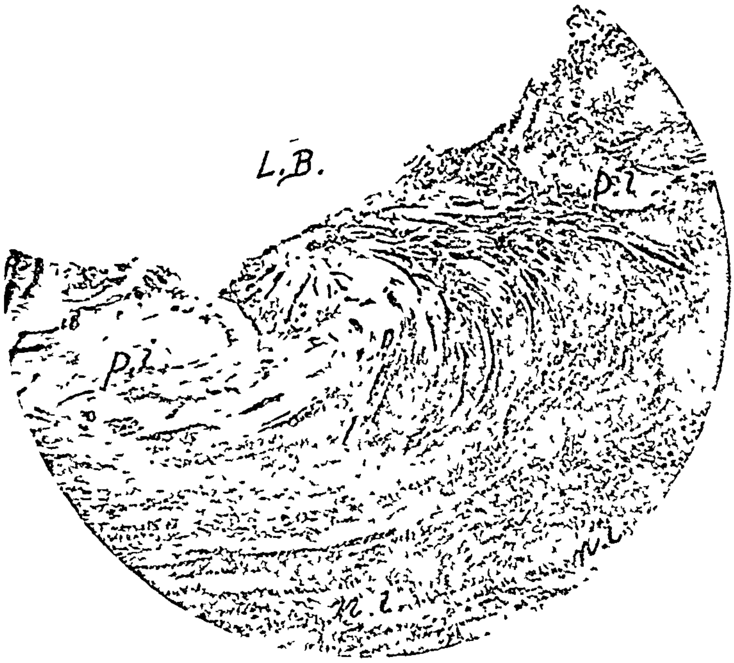

Fig 6—Section taken from specimen Figure 1 at place marked s n i, normal ivory; p. i., pathologic livery; l b., surface where lead bullet was in contact with the ivory. ×14

In filling teeth a pulp may be successfully capped with any suitable innoxious substance, providing the capping does not press the pulp. The walls in which this organ is confined being unyielding, any pressure beyond normal produces inflammation, which can not be taken care of as it could in other tissues; this is from lack of ability to expand, as is necessary in inflammation, hence the death of the pulp in a comparatively short time. An exposure of the human pulp or other injury to it, is most prone to its ultimate death, no matter how successfully the capping may have been done, and it would seem that this proneness to die is due to the very limited supply of vessels. Aside from the difference in mechanical surroundings, there seems no reason why this organ should not recover from injury as easily as any other composed of like tissues, for the process of repair here is no different from that of repair in other tissues of mesoblastic origin The fact seems to be that the process of repair is practically identical in all tissues, the great essential being abundant blood supply.

Decay, fillings, cappings or abrasions, may be looked on as extrinsic foreign bodies, they stimulate the pulp to action, resulting in an effort on the part of this organ to protect itself from an enemy or repair damage done

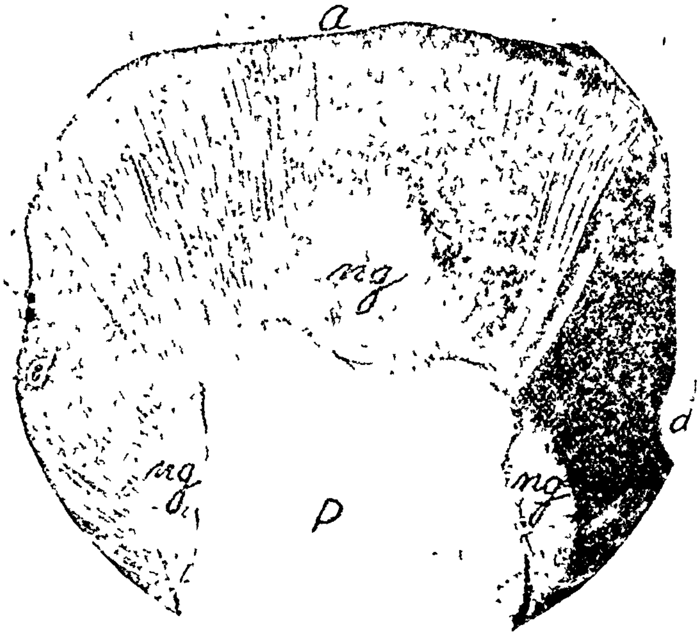

Fig 7—Section of deciduous canine ×14 p, pulp chamber, n g, new growth; d, decay, a, abraded surface

The peripheral ends of the dentinal fibrils may be considered as a part of the pulp, and any wearing away or destruction of any part of these delicate processes is a lesion of tissue as truly as an amputation or other larger injuries Irritation to the pulp, which is short of acute inflammation and death, usually results in the production of more dentin. This may take the form of nodules, or a protective growth at the pulp ends of the fibrils irritated. These growths are shown in the accompanying tooth sections (Figs 7 and 8). This effort at pro-

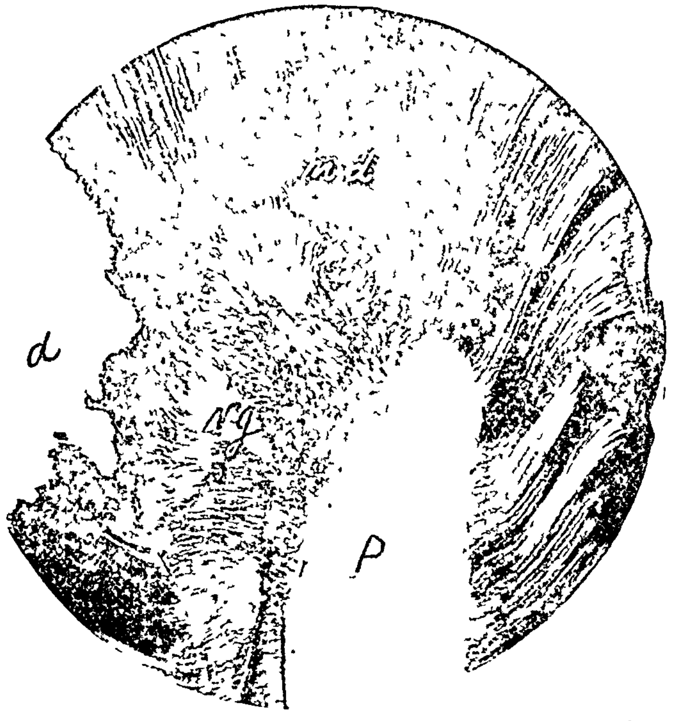

Fig 8—Section of permanent canine ×14 p, pulp chamber n g, new growth; n d, normal dentine; d, cavity of decay

tection, however, often results in death from lack of space in which to work, accompanied with the lack of collateral circulation. Compare these results with that of injury to the tusk. Repair in the latter case is not hindered by unyielding confinement and limited circulation as it is in the former, and restoration is complete. Pulp nodules, in many instances, act as foreign bodies, and end with a destructive result to the soft tissue involved. Adherent new growths, in the pulp chamber, also have similar endings in many cases; the attempt at repair itself defeating its own object.

Chas. B. Nancrede[1] says:

> Repair is effected by the same processes in the hard and soft, the vascular and the avascular tissues, the differences being temporary, non-essential and chiefly dependent on physical conditions. Thus, the lime salts render the bone so dense that until they are removed only a limited accumulation of leucocytes and, later, proliferated tissue cells, can take place at the site of injury; yet from the outset, the soft parts of the bone undergo the same changes, in kind, as does the least compact connective tissue. Two forms of repair are usually described, but in reality there is but one, the second variety being at the outset only a modification of the first, caused by disturbing influences; when these cease to be operative the processes of repair tend to proceed as at their inception, any variations from the typical methods being accidental, not essential parts of the process. In the normal method reparative processes commence from the moment the physical disturbance of the part ceases and the bleeding is checked. Here the minimum of reparative material is requisite, and the wound is said to heal by the first intention, by simple adhesion or by aseptic inflammation (obsolete expression), because it is only possible in the absence of infection. Where infection occurs the reparative processes are interfered with and thwarted. reverting eventually to those seen in the absence of suppuration, but vast quantities of reparative materials are wasted, unnecessary tissue destruction results, and the subsequent changes in the excessively developed germinal tissue often cause serious interference with function. Healing is here said to have taken place by granulation or by the second intention, but the end processes are the same in both forms.

When irritation goes beyond that of the mere stimulation of function this description of repair seems to cover every field, at least up to our present knowledge, and especially that of pyorrhea alveolaris.

### GUMS AND ALVEOLAR PROCESS.

In the discussion of interstitial gingivitis, so-called pyorrhea alveolaris, the process of repair, as above described; is the important factor, as it is in all lesions, the exciting cause having been determined.

The local destructive metabolism, in this disease, is identical with that of any like tissues. Where constant ineffectual efforts are being made to extrude or absorb noxious foreign bodies we have like results, namely, destruction of much of the surrounding tissues. In gingivitis the foreign body, in the incipiency of the disease, is nearly always calcareous deposits.

To Talbot more than to any one else is due our most intimate knowledge of this disease; his extended researches and observation of the disease in man and animals, and his experiments on dogs, bring the matter close under our observation. In his conclusions[2] he says:

> The mass of evidence previously presented demonstrates that the causes of interstitial gingivitis are divisible into predisposing causes (which may be subdivided into local predisposing and constitutional) and exciting causes. The exciting causes are either constitutional or local, but as a rule are local or have local action.
>
> The predisposing factors of this disease, as already mentioned, are: conditions of jaw evolution, transitory nature of certain structures, degeneracy and conditions of previous irritation and inflammation.

In his mercurialization of dogs for the study of the production of the disease by drugs (page 117) he says: "Care was taken to secure those in health and with healthy gums."

I should deem it a practical impossibility to know that there was absolutely no deposit about the teeth of these dogs and think it fair to assume that there must have been some deposits, however small; since domesticated dogs, like men, all have calcareous precipitations about the teeth to some degree, it may not be malignant in its tendency until the etiologic moment has arrived, the other factor being lessened resistance by other morbid systemic conditions.

Slight irritation from calcareous deposits may remain *statu quo* for years and finally a general morbid condition arrives, or rises to such a pitch that pyorrhea alveolaris or other advanced conditions of interstitial gingivitis are produced. The inflamed condition of the tissues about the teeth in interstitial gingivitis, it seems, is simply a continual effort at repair, which repair can not be accomplished on account of the presence of calcareous deposits, or the phagadenic progress of a pus cavity about the roots, the pyorrheal stage. Thus it happens in these cases, as in others, that Nature thwarts her own object in her attempt to accomplish it, and destroys much of the surrounding tissue.

My conception of interstitial gingivitis is that it is essentially local in its exciting cause, and that it only has systemic symptoms for the same reasons that other lesions may have auto-intoxication as one result. There seems no reason to believe that drug poisoning or other morbid systemic conditions can produce interstitial gingivitis without a lesion of the gum pre-exists; this lesion may be the merest break in the mucous membrane, caused by the smallest deposit of this irritating material, this local mechanical irritation being one requisite of the etiologic moment. On the other hand, there may frequently be found in gingivitis the systemic disorders accompanying cases of sapremia and septicemia.

The continual pressure against the gum tissues of rough irritating calcareous deposits, which continuously increase in quantity and insinuate themselves deeper and deeper beneath the soft tissue, are accompanied with all the products of repair by granulation, or second intention, as described by Nancrede, and may be accompanied with surgical fever. These deposits may be found wherever saliva can penetrate. It has never been my privilege to see deposits of tartar about the necks of the teeth that were innoxious, but they are always irritating to some degree, and usually greatly so. This condition may exist in all stages, from that of being imperceptible to the naked eye, up to a complete state of pyemia, and may result in death.

In one case which came under my observation death resulted. The culminating cause in this instance was no doubt due to the exposure of more bone by the extraction of a molar, while the gums and alveolar process were in the worst possible state. When the patient was presented, exfoliation was going on and much bone about the teeth was exposed, the patient having a high septic fever. The septic condition was recognized and advice given against extraction. The patient, however, was suffering greatly with a lower first molar and went elsewhere to have the tooth removed. I was called again later, but the patient was past recovery and died within ten days after the extraction.

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[1] Roswell Park: Treatise on Surgery, p. 350.

[2] Interstitial Gingivitis, p. 148.

There is abundant evidence to show that auto-intoxication, or a low state of health from any cause, greatly favors the progress of the disease, and with this state of affairs present, a chronic pus-forming condition may soon be found about one or more of the teeth where the local exciting cause exists, but that autointoxication or other systemic disorders cause this disease, without local irritation, does not appeal to the writer's reason any more than to say that the same disorder causes inflammation of the pleura or conjunctiva without a local point of least resistance from local cause.

Degeneracy or faulty development may bring the etiologic moment at a very early stage of the local irritation. This might be almost coincident with the initial lesion, whereas in normal and healthy individuals the pyorrheal stage, even in its mildest form, may be deferred indefinitely, or never appear even where calcareous deposits are excessive.

The fact that the tissues involved are transitory in nature does not seem an adequate factor in accounting for the disease, as suggested by Talbot, since they are as transitory in cases where the disease does not exist as where it does, and these tissues recover as readily as other structures which are not transitory.

There seems no question but that calcareous deposits about the teeth should be looked on as noxious foreign bodies and that the constant effort on the part of the tissue to extrude them results in the progressive death of the surrounding tissue. We find in this disease zones of granulation tissue, with the result of destructive metabolism in the soft tissues and the creation of sequestra in the bone. This condition, however, is changed to constructive metabolism the moment the tartar, sequestra or other local irritants are removed.

### SEQUESTRA.

The removal of sequestra by Nature is described by Roswell Park as follows:

> A sequestrum may include an entire bone, shaft or ephiphysis, or only a small fragment. A given portion of the bone, having lost its vitality, becomes properly a foreign body which the surrounding tissues endeavor to extrude or to wall off and surround. The extrusive effort is the one which is usually seen. This is done by the continued presence of granulation tissue, which gradually perforates the surrounding bone at places of least resistance, the result being the slow formation of a sinus or several sinuses, ultimately connecting with the surface.

This description, from my point of view, is a very good definition of the pyorrheal stage of interstitial gingivitis.

The sinus in the pyorrheal stage of this disease is between the root and the alveolar process, unless the lesion be so deep in some place on the outside of the process that a gingival abscess is formed. In either event the alveolar process is continually bathed in pus, which results in its destruction.

So long as the tartar is present as a foreign body the irritation is continuous and sequestra are formed which are a second source of irritation until they are removed or absorbed.

All these cases will heal by removal of the deposits and sequestra or by the loss of the tooth. The removal of the teeth invariably results in recovery and a patient without teeth, either young or old, can not have the disease, regardless of transitory structures, degeneracy, heredity, drugs, environment, or systemic disease. If lesions of the gums or maxillary bones appear where there are no teeth, it is not interstitial gingivitis, but something else.

### DISCUSSION.

**Dr. Eugene S. Talbot**, Chicago—While it is possible that gutta-percha will be tolerated at the apical foramina more readily than a steel broach, yet to understand the pathology arising from such irritant we must first take into consideration the structures involved. We can not compare the peridental membrane and the alveolar process with other structures of the body. The alveolar process is a transitory structure. The tooth to a certain extent is a foreign body. The alveolar process and the peridental membrane, unlike the other structures, have not come to stay. It is waiting for the least irritation to set up absorption and destruction of the peridental membrane. While it may tolerate gutta-percha better than metal, in either case the irritation produces absorption and destruction. It will not encapsulate foreign substances like other tissues. I have demonstrated this many times in many ways. Neither can we contrast a pulp like that of a human tooth with that of an elephant's tusk or a pulp that is persistent. The pulp is practically a degeneration, even in health. The expansion and contraction is *nil*, hence pulp stones and frequent inflammation result in abscess of the pulp without pain. The restricted portion of the apical end of the root restricts repair. The constitutional causes of interstitial gingivitis have local action because the gums are a secretory structure and because of the transitory nature of the gums and alveolar process; next to the nervous system, they are always the first involved. The arteries, nerves and veins terminate in this structure. They come up against a blank wall or nearly foreign substance, the root of the tooth, hence it may be called a terminal structure. I agree with the essayist that tartar invariably produces interstitial gingivitis, and in that case is entirely local in its origin, but the constitutional variety may best be illustrated in something like eighteen or twenty syphilitics that I have had in my practice for a number of years. By local treatment I am able to practically restore the gums and alveolar process to health, and the patient leaves my office after a given length of treatment feeling well, but invariably he returns, sometimes in six months, a year or two years, with marked interstitial gingivitis. What is true of syphilitics is also true in consumptives, diabetics and auto-intoxications of all varieties. The calcareous deposits are no doubt irritating to the surrounding tissues. They should in all cases be removed.

**Dr. A. E. Baldwin**, Chicago—I think we, as a profession, ought to define our premises a little more closely than we do and then we could have much more intelligent and accurate discussion. As, for instance, we speak of degeneracy being a change from the normal. The first essential is to fix on the data for the normal. Without this we would be discussing largely in the dark, because every one's standpoint might be different as to the point taken for normal. The statement has been made that the pulp itself is a degenerate condition. Before I could accept any such statement I should want to know very definitely what is considered normal. The essayist speaks of the tolerance of the tissues for certain things, and mentions an illustration of seventeen years' standing. I think the position taken by the essayist that there is an apparent tolerance is well taken. I had a similar case in my own experience in a left lateral superior incisor. There was no irritation. I removed the substance later and intended to make an examination of it, but in the moving of my office it was lost.

**Dr. G. L. Curtis**, New York City—The tolerance of the tissues for foreign substances varies according to the nature of the substance. I have in mind the case of a child who stepped on a headless pin, which a physician, when he reached the house, could not find. Three months later the pin came out at the hip. I know a man who has carried one-half of a large aspirating needle in his leg for twenty years. It had evidently lodged against the bone and did not take the usual course of passing through the soft tissues. I suggested the use of the *x*-ray, but he said he would be more comfortable if the needle were not found, as he was in good health. I can not agree with Dr. Talbot as to the tooth being foreign substance, unless he considers the tooth a degenerated foreign substance. I believe that when the tooth is developed it begins to degenerate. I think gutta-percha is better tolerated than any other substance. I believe some instructive lessons might be gained from the use of the *x*-ray. The syphilitic phase of interstitial gingivitis is one that has interested me for many years. I have felt that many, if not all, the recurrent cases of gingivitis are due to syphilis. When the inflammatory process returns, following thorough local treatment, I have found that the cases usually do well under syphilitic treatment, and in a great many such cases I have proved beyond doubt the presence of syphilis. It is not always acquired by the patient, but is sometimes inherited. We know that the child of a syphilitic parent has syphilis. These cases are perhaps the most difficult to treat because of the lack of definite history. I have gained my knowledge more particularly through the study of blood. The germ or spore of syphilis is detected in the blood. Dr. Rhein told me recently of the author of that discovery, and I have known for some ten years that it was possible to find the spore of syphilis in the blood of syphilitic patients. I believe that wherever I find the syphilitic spore the patient bears the mercurial treatment well, and if placed on very mild preparations of small doses of the red oxid of mercury he improves. I usually give a sixteenth of a grain three times a day, increasing it to one-fourth and continuing until the spore disappears. If the treatment is persisted in for months one can eliminate the degenerative condition which maintains syphilitic gingivitis.

Dr. M. L. Rhein, New York City—We have at times been accustomed to the use of terms that were rather exaggerated, and I was very much pleased to hear Dr. Fletcher make use of the term "sapremia," instead of septicemia. I am convinced that we see very few cases of real septicemia, and that the one case he cited is a distinct exception to the general run of cases which are sapremic. From a surgical standpoint I take exception to the view of the essayist regarding the after-effects of extraction of a tooth under the circumstances cited. I can not conceive of a case of this nature in which surgical interference can be objectionable or be a potent cause for evil.

The essayist's view that the extraction of this tooth may have had considerable bearing on the fatal ending of the case seems to me contrary to all accepted surgical principles. Furthermore, it brings up the question frequently met, whether because of the presence of pus it is not advisable to delay the extraction of a tooth. This is a question well worth consideration. My clinical experience with the use of gutta-percha leads me to believe that it is tolerated in the most remarkable manner by the soft tissues. I could cite a number of interesting cases bearing out this view. If there is a substance which the tissues will tolerate more freely than gutta-percha it is perfectly fused porcelain. This has been demonstrated by the wonderful tolerance shown by the tissues around a porcelain root after the amputation of a necrosed root in one of the multirooted teeth and the attaching of a porcelain root to the crown. I am totally opposed to the extreme views that Dr. Curtis takes, that almost all cases of recurrent pyorrhea or interstitial gingivitis will show a distinct syphilitic origin and that the syphilitic germ can always be demonstrated in the blood. Dr. S. Lustgarten has the credit of making this discovery twenty-five years ago, but it is well-known that the matter is disputed at the present day.

Dr. Hans Pilcher, Vienna—Beside gutta-percha, paraffin is well tolerated, as the surgical use of this substance shows. Dr. Trauner of Vienna has used it with success for the filling of old cavities with open foramina before the development of the teeth is completed.

Dr. Curtis—I think the question of extracting the teeth in the presence of inflammatory processes would depend entirely on the individual case. In this case I have no doubt the extraction did much to hasten the fatal ending. I think there was an acute inflammation established by infection of the fresh wound caused by the extraction of the tooth. I therefore believe it better to temporize with these cases and try to tolerate this inflammatory process until the greater part of the trouble has been disposed of. Ordinarily speaking, I think the extraction of these teeth is wise, but never when the extraction is liable to extend the inflammation.

Dr. George F. Eames, Boston—When Dr. Talbot said that when we consider the tolerance of foreign bodies in these tissues we must take into consideration the structures involved, he might well have said also, that we must take also into consideration the general condition of the patient himself. It seems to me that this explains the very great difference in patients tolerating, not only foreign bodies, but all toxic irritating substances. As to the extraction of teeth in the condition named by the essayist, while it would seem that the surgical principle of removing the irritant at once could obtain in most dental cases, yet we have on record a number of cases in which very serious results have followed the extraction of teeth, when infection had extended from one tooth to another, causing their loss and resulting finally in death. I believe this must be due to fresh infection of a surface reopened and that there is some truth in the statement that we should get rid of the infection by some other means.

Dr. M. L. Rhein—I certainly feel from considerable observation that all such cases are due, not to the extraction, but to the faulty surgical treatment.

Dr. W. E. Walker, New Orleans—I think that death is not due to extraction, but to the faulty technic. Who can say in many cases that death would not have resulted had extraction not been done? In many of these cases of suppurative osteomyelitis, simply removing the tooth is not sufficient. The marrow of the bone is permeated with pus and should be treated. The whole mouth should be treated with antiseptics and the socket should be injected with antiseptics. Considering the tooth as a foreign substance, as Dr. Talbot has said, and being the cause of gingivitis, I think is putting the cart before the horse. I believe if we were to use the word inflammation more carefully and not consider as inflammatory conditions those which are simply passive hyperemia, we would be more correctly understood. In early stages of so-called interstitial gingivitis or Rigg's disease I believe the tooth is not an irritant primarily, but that the disease is due to some local or constitutional condition together with lack of exercise. In the majority of cases we have an accumulation of venous blood and because there is not the normal stimulus due to mastication the faulty general circulation becomes more manifest in the gum tissue. This passive hyperemia keeps the tissues overfilled with blood which does not contain sufficient oxygen for the tissues. We know that the cementum contains numerous layers which have been put on during the life of the individual. This, I think, seems to demonstrate the fact that the fibers of the cementum have but a limited life, and that additions of fresh cementum are necessary to entangle fresh fibers to hold the tooth. The connective tissue is exposed and we have an oozing of serum which is rich in lime salts. Precipitation of these salts occurs and there is then the additional mechanical irritation of the calculus so formed, which is not the cause of the separation of the tooth, but the result.

Dr. E. S. Talbot—Dr. Walker misunderstood me. I did not intend to say that the tooth as a foreign body produced irritation. It acts somewhat as a blank wall.

Dr. M. H. Fletcher—Dr. Talbot's position as to the transitory condition of the alveolar process should apply equally well to the hair and nails and to tubercles of bone produced by the pulling of muscles at their attachment. The form of any bone in the body may be changed by continuous pressure as well as the alveolar process and yet the former is not considered transitory. If the human nail is not transitory why is it not like the baboon's, twice as thick? The alveolar process and teeth are called transitory structures, but I fail yet to see why they are not susceptible to repair as long as they are alive. It seems to be a fact that the organisms of the universe are losing certain structures for the benefit of the organism itself, but I have failed to be convinced that the transitory structures, as such, need necessarily be subject to disease more than other structures. The matter of production of *interstitial gingivitis* by medicines, syphilis or by other systemic causes seems to me so difficult to prove that I take the opposite view until it is proved. While I admit that those who have spoken have reasonable grounds for their opinions, I feel that I have reasonable grounds for the opposite. My paper did not give sufficient details about the death from extraction. The gums and the alveolar process were in the worst possible state, there being a gangrenous and sloughing condition about all the teeth. It is possible, as Dr. Walker suggests, that the patient would have died without the extraction; but knowing the case as I did, I believe had the treatment been temporized, as suggested by Dr. Curtis, the life might have been spared. The railroad surgeon having this case in charge was originally treating it for acute tonsillitis.

Dr. Rhein—Do you suppose, with the condition of the worst possible kind, that after removal of the tooth, if the proper germicidal agents were kept in that socket for a sufficient length of time, there would be any possibility of infection in that particular case?

Dr. Fletcher—I believe it is practically impossible to sterilize an open bone wound unless all dead bone is removed. The deeper one scrapes, the larger the blood vessels which are opened. I think the extraction of the tooth, with the addition of this zone of uncovered bone to the already septic condition, turned the case downward instead of toward recovery.

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# ARTHRITIS DEFORMANS.

## THE REPORT OF A SERIES OF ONE HUNDRED AND TEN CASES FROM THE JOHNS HOPKINS HOSPITAL.

(FROM THE CLINIC OF PROFESSOR OSLER.)

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(*Continued from page 8.*)

### DIAGNOSIS.

Undoubtedly an essential thing in a correct diagnosis is a knowledge of the fact that arthritis deformans often occurs as an acute polyarthritis, with a sudden onset, and that unless care is taken the condition is especially apt to be regarded as acute articular rheumatism. Here, as is usually the case, knowledge of the possibilities is an essential to correct diagnosis. It may be taken for granted that the advanced stages with the marked characteristic deformity are not likely to be mistaken, but of what value is diagnosis then when the possibility of preventing these later changes is the hoped-for thing? Practically, the study of the diagnosis will be confined to the early stages. The more acute forms have to be diagnosed, especially from acute articular rheumatism, acute gout, acute polyarthritis from other causes (for example, septic conditions, etc.), and gonorrheal arthritis.

*Acute Articular Rheumatism.*—There are several features that give one help in the diagnosis: the first, it may be said, is the knowledge of the two diseases. The polyarthritis of arthritis deformans rarely shifts from joint to joint. When the joint is once attacked, it rarely clears up suddenly. One seldom sees the rapid disappearance of arthritis in a given joint, which is so characteristic of rheumatism. The joints rarely show the severe local tenderness of rheumatism. There may be redness, but it is rarely extreme. The swelling is often marked, but in many of the joints it is distinctly more in the surrounding structures than in the joint itself. There may be effusion, especially in the knee joints. Certain joints are often involved which are rarely concerned in rheumatism, especially the joints of the neck and the temporomaxillary joint. The involvement of the fingers is often especially characteristic. We may find that only two fingers are involved, very commonly the middle or ring fingers, or it may be the first finger and the thumb. There is a curious appearance often given by the fingers, really the early stage of the "fusiform" condition. This we have found of considerable help. The temperature is usually not very high, and it may seem low in proportion to the amount of arthritis. The pulse is nearly always above normal. If this persists after the subsidence of the acute features, it is a very suspicious factor. The enlargement of the lymph glands, especially those associated with the affected joints, speaks for arthritis deformans. The absence of cardiac involvement and the usual lack of any help from the use of salicylates, is often an important point. Another suggestive fact is the common rapid muscular atrophy. Undoubtedly in prolonged cases of rheumatism one sees considerable atrophy, but it rarely appears with the rapidity that it does in arthritis deformans. The early atrophy of the interossei muscles is especially to be noted. The exaggeration of the reflexes is a point to be kept in mind. Then, too, the case is apt to drag on, the temperature perhaps remaining at 99 F., or slightly over it, the pulse rate increased, and the joint symptoms persisting. This is always suspicious, and in case of a diagnosis of acute rheumatism, should always lead to a careful re-examination of the case. If after the acute symptoms are over joint deformity or alteration persists, one should always reconsider a diagnosis of acute rheumatism.

*Acute Gout.*—This is not likely to be a frequent cause of difficulty, but it is a possibility. The common alcoholic history in such patients, the attacks usually clearing up rapidly and leaving little damage in the joints, and the results of uric acid estimations, should all prevent error.

*Gonorrheal Arthritis.*—This is likely to give difficulty in diagnosis only where several joints are involved. If one cultivates the habit of always keeping gonorrheal arthritis in mind, and searches carefully for gonococci, there is not likely to be much possibility of mistake. In all doubtful cases of polyarthritis one should cultivate a "suspicious" frame of mind toward the diagnosis of acute articular rheumatism, and make it not first but last, and after other conditions have been excluded.

From various unusual joint conditions there would seem to be little difficulty in distinguishing arthritis deformans, and this group does not require discussion.

One is much impressed in going over the histories of our cases with the very common diagnosis of acute rheumatism made in the previous attacks. Often there are little facts mentioned which are enough to clear the diagnosis. Thus, several patients have said that their doctor commented on the fact that they had acute articular rheumatism with very little fever, or that they had a great deal of thickening left about the wrists or hands after their rheumatism. It is a good safe rule always to hold grave doubts as to the correctness of the diagnosis of acute rheumatism when there are permanent changes left in the joints after the acute attack is over.

Regarding what may be termed early minor manifestations of the disease, I do not know that any one has written better than Dr. Spender, in the article in "Allbutt's System of Medicine." There may be merely vague pains about the ankles or wrists, or the patient may complain of pain in one joint perhaps associated with some injury or a sprain. There may be some weakness of the wrists or hands. There may be curious neuralgic pains about the joints. As Spender says, these should always attract careful attention, and a thorough examination should be made. Of some of the other special points in the diagnosis to which Spender drew attention, note may be made. He emphasizes especially the rapidity of pulse. This, as we have already said, seems an important point. The various areas of brown pigmentation, especially on the face, neck and forearms of which he speaks, have not been of any especial assistance, and there would seem considerable doubt of their distinct association with the disease. The coldness and sweating of the hands do occur frequently, but it is probably more often associated with neurotic conditions, by no means a rare accompaniment of arthritis deformans. As Spender says, the diagnosis of rheumatism, muscular rheumatism, sprains, etc., are all pitfalls into which we are too apt to stumble.

### TREATMENT.

In the discussion of this matter we are again met with the fact that there are two great groups of cases, the early and the late. The treatment in the first may undoubtedly be of great help as a preventive measure of farther damage. In the latter condition it can be only palliative, although even here much good may be done. We may first discuss the treatment of an acute attack. Patients are better at rest, and probably it is well to keep them clothed in flannel. If there be much fever the diet should be liquid. Ordinary attention should be given to the bowels. For remedies for the pain we have found that salicylates are of comparatively little use. Antipyrin in doses of 5 grains is often effectual. Guaiacol is highly recommended by some. Small doses of codeia may be used; morphia seems to be rarely required. Of local measures to the joints the ice bag sometimes gives considerable relief, or the wrapping of the joint in cold compresses surrounded by oiled silk. These may be kept on constantly. Oil of wintergreen or lead and opium lotion applied locally is of some help. The hot air baking very often gives relief to the pain. Gentle massage may be of use. In spite of all measures, in some cases the patient is but little relieved. After an acute attack, whether the patient be absolutely free of symptoms or has some damage left in the joints, the great principle of treatment seems to be keeping up the nutrition. The patients should be out of doors as much as possible. They should be given all the nourishment they will take, and this of a general kind. The mistake is too often made in considering these patients to be rheumatic or gouty, and meat is almost totally cut off. On the contrary, a full meat diet seems especially helpful. They should be given nourishment between meals and at bedtime, and every effort made to improve their general condition. With this, of course, local derangements are to be carefully treated. Carious teeth and pyorrhea alveolaris should receive attention. Any stomach or bowel disorder should be remedied, and every endeavor made to keep the patient under the most favorable conditions. General massage is usually helpful. Concerning the various forms of bathing no general rule can be laid down. In England there can be little doubt of the benefit of such waters as at Bath. In this country, while some patients are doubtless helped by the bathing, many others are made distinctly worse. That this is due to too prolonged hot bathing to the point of depression may be possible, but our cases rather suggest that great caution should be exercised in advising, at any rate, any severe course of baths.

The local treatment of the joints is very important. First comes massage, which in the beginning ought to be given by an assistant. But as a general rule later on the patient should be encouraged, as far as possible, to rub himself. There is usually the double benefit to the joint rubbed and to the hand employed. The hot air treatment is especially useful in many of these cases. The oven may usually be heated to 350 F., with perfect comfort to the patient, the importance of short applications being always kept in mind. Probably the majority of cases are helped most by periods of only twenty to thirty minutes in the hot air bath, and periods of an hour and an hour and a half are undoubtedly, in many cases, positively harmful.

The question often arises as to the amount of use that should be made of the affected joints. Leaving out the acute attacks, as a general rule, the more the joints are used the better. The mistake is often very serious when the patient is put to bed and any attempt at using the joints discouraged. The benefit of use is well shown by the temporomaxillary joint, which, although frequently involved, relatively rarely shows permanent damage. These measures may result in great improvement, even in a far advanced case, as, for example, in Case No. 70, that of a woman who for eighteen months had been bedridden, had been unable to feed herself, and who had some teeth pulled in order to be fed. After three months of treatment she was able to walk moderately well, could dress and feed herself, and open the mouth fairly well. Such cases are, of course, not common, but they serve to show that the outlook is not always without hope. There are two things necessary, probably both in the physician and in the patient. These are perseverance and patience. There are probably few cases, even of advanced disease, that can not be at any rate helped by persistent, patient, systematic treatment.

By far, however, the more important group, as regards treatment, are the early cases. As has been stated, too often these are regarded as rheumatism for long periods, until the damage is done. In these, when recognized early, the most important element in the treatment seems to be good nutrition. General good hygiene, lots of fresh air and sunlight, and an abundance of good food are essential. Great care should always be taken to be on the outlook for the slightest manifestations of a return of the symptoms. Every slight infection should be regarded seriously. We are unable to say how successful early recognition of the disease and persistent care may be in preventing late attacks and permanent damage. At any rate, the patients should have the chance.

In addition to all the measures previously spoken of, there seem to be two drugs which are especially useful. These are the syrup of the iodid of iron and arsenic. They may be given alternately or combined, but in any case their administration should be kept up over long periods of time, for months, or if necessary, even years, at intervals.

*Surgical Treatment.*—This in some cases holds out a hope of benefit. In certain of the cases with marked contractures, the tendons may be divided and the limbs straightened. In other instances, under an anesthetic, a bent limb can be forcibly straightened and put up in plaster for a few days, but it can not be kept too strongly in mind that the best treatment for these cases of contractures is the preventive one. It is not, however, always in our power to carry this out, as the patients frequently delay consultation until permanent contractures have been established. Of excision of the joints we have had little experience, but it is undoubtedly of use in certain cases. It is probably most likely to be useful in the knee or elbow joint. It may serve to give a more useful limb. In some instances, too, the excision of the joint seems to be justified on account of pain. We see patients suffering with constant severe pain which nothing relieves; excision of the joint frequently gives great relief and the patients are left with about as good a limb as before. In some cases operations on the hip have been of considerable use. It must be said, however, that as yet we have hardly enough statistics on which to draw any definite conclusions on the value of surgical intervention.

It can not be too strongly emphasized that in this and so many other diseases the great requisite to intelligent treatment is proper diagnosis; and this, in the majority of cases, would seem not such a difficult matter if the profession once realized the frequent occurrence of this disease and the fact that it is so often taken for acute rheumatism. It may also be said that prevention is often more possible and certainly more hopeful than cure.

### PROGNOSIS.

This is usually rather gloomy. The general tendency of the disease is to progress, but we have to remember that in many cases the disease was never diagnosed until more or less permanent changes had occurred. How much can be done for early cases with early diagnosis we hardly have data to state. Reports have been obtained from 25 of the patients who had been in the hospital over three years ago. Of these only 2 could be described as well, 3 had died from an unknown cause, but only about half the remainder were much worse, 4 were crippled completely and 5 were only able to get about with crutches. The other half were much in the same condition.

There can be no doubt of the necessity of always giving a most guarded prognosis. They may recover, which is unlikely so far as our present knowledge goes, but we can generally only hope to keep the disease stationary by care and perseverance. It is to be hoped that early diagnosis may help the patients of the future.

### "STILL'S DISEASE."

To this only brief mention will be given. There is some doubt as to the exact nature of these cases, but at present it seems best to include them among the cases of polyarticular arthritis deformans.

There were two cases in our present series, one a male aged 4, and one a female aged 5 years. They both had rickets, but there was no history of symptoms suggesting congenital syphilis. They both showed the symptom complex described by Still, namely, (1) an arthritis involving many joints, and with more change in the periarticular structures than in the joint itself; (2) an enlarged spleen, and (3) extreme enlargement of the lymph glands.

One patient was discharged somewhat improved, but the other went out completely well—one of the very few instances of recovery from this condition.

These cases seem to suggest an infective cause very decidedly. In the case with recovery the enlarged spleen and glands diminished with improvement in the general and articular condition. It seems most reasonable at present to consider them a type of arthritis deformans.

### GROUP III. MONARTICULAR FORM.

These comprise a group of cases about which there is also much difference of opinion. The frequency is doubtful. Probably many of the cases often diagnosed as chronic rheumatism belong here, and also the group termed *Morbus coxæ senilis*. The disease usually occurs in elderly people, one of the larger joints, most often the shoulder or hip, is involved and the general type of change is degenerative. There is usually marked loss of function, wasting of the muscles about the joint, and sometimes ankylosis in the hip joint. In these patients very careful examination should always be made for slight changes in other joints. These may be very slight, but in some of them undoubtedly other affected joints may be found.

There are only 3 cases of the monarticular type in this series. The more chronic cases do not often seek hospital advice. The condition may not seriously interfere with their comfort, and they are content to make the best of it. Curiously enough, two of these cases suggest in some ways an acute onset much like that described for the polyarticular form.

The symptoms may be noted briefly. Two of the patients were females, all were white, the ages were 39, 40 and 50 years. In two the shoulder was involved, and in one the hip. The former complained of pain in the hip and leg. In both the shoulder cases the onset had been rather sudden; they complained principally of pain and difficulty in moving the joint. Later the pain became less, but limitation of motion was left. The third case was more gradual. There was pain in the hip and down the leg, with gradually increasing stiffness.

The symptoms were much the same in all—pain on motion, distinct limitation of motion, crepitus, and some muscular wasting. In one of the shoulder cases the reflexes on the affected side were much exaggerated and normal on the other side. She also showed signs of slight involvement of two finger joints on the other hand. There were also some areas of pigmentation. The temperature in two averaged 99 F., in the third it went up to 100.5 F. The pulse rate in all was about 90.

The diagnosis in these cases may offer some difficulty. A gonorrheal arthritis can usually be excluded, and the greatest trouble generally is to distinguish it from a tuberculous joint. If the characters of the joint involvement do not give the diagnosis tuberculin may be used. We have found it very satisfactory. The finding of slight suggestive changes in other joints is conclusive.

Treatment is usually only palliative. Local measures, massage, wet packs, etc., are often of use, and in some instances surgical measures may give a more efficient joint, especially at the hip. But too often the degenerative changes advance gradually as in the polyarticular form. Every endeavor should be made to keep up the general health.

*(To be continued.)*

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**Pulmonary Emphysema from the Life-Insurance Standpoint.**—Among the addresses delivered at the Third International Examiners' Congress held at Paris recently, was one by E. Hirtz of Paris on the above theme. He insisted that every subject with pulmonary emphysema with symptoms at the apices and distinct resistance to percussion and whose general condition is only fair, should be regarded as a bad case for insurance. Also every subject with emphysema who registers less than 2,000 c.c. in spirometric tests. The candidate should be absolutely rejected if the difference between the breast measure during forced inspiration and expiration is less than 3 cm. with heart and arteries not in a normal condition. The difference between the breast measure during forced in and out-breathing averages in health 7 cm. This difference drops to 5, 4 and even 2 in case of emphysema. The findings of this test always parallel those obtained with the spirometer. He attributes much greater importance to the latter than to the pneumometer, citing Lermoyez to the effect that "we diagnose emphysema with the ear, but we prognose it with the spirometer."

# URETHROTOMY BY THE COMBINED USE OF AN ANTERIOR AND POSTERIOR SOUND USED AS GUIDES,

## THE LATTER BY MEANS OF PREVESICAL PUNCTURE WITH A CURVED TROCAR CANNULA DESIGNED FOR THE PURPOSE.

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The genito-urinary surgeon or the general practitioner of medicine is confronted with no graver condition in the routine of practice than the fortunately rare impervious urethral stricture, as, with the patient anesthetized and the structures covering the urethral site divided, with or without a Wheelhouse staff or other guide, down to the stricture, he finds it simply impossible to locate the proximal lumen, or anything resembling the mucous membrane of the urethra.

It is a well-known fact that the best genito-urinary surgeons are frequently baffled by this condition, and utterly fail to enter the bladder by the ordinary methods of urethrotomy, with or without a guide. The statement, "with a guide," refers to a catheter or staff introduced via the meatus and extending only down to the stricture, the usual meaning, "with a guide," obviously not being intended, since, of course, no difficulty could ensue if even the smallest filiform could be passed into the bladder.

The Wheelhouse operation has stood the profession in good stead for many years, and especially is this true of the vast majority of surgeons not skilful enough to perform the difficult operation of Cock, and it is in just these cases, especially those in which the latter operation can not be done, and resort is compelled to be had to suprapubic cystotomy, that I propose a procedure to be described presently. Indeed, it seems to me that Cock's operation is never justifiable when it is demonstrated that other methods consuming half the time and offering incalculably less difficulty in performance are at hand; this is also true of cystotomy for the purpose of posterior catheterism, when done simply as a guide.

That we can not explore the perineum of a patient and do extensive dissection of the parts in a vain effort to enter the bladder from below without an unwarranted amount of shock, goes without saying, and has more than once, even in skilful hands, resulted in death from urinary infiltration and sepsis.

The operation of suprapubic cystotomy is very generally used by most surgeons at the present time for the purpose of posterior catheterism in cases impossible of performance by any other means, and it seems to me that it has been to the discredit of surgery that it has been only employed as the operation of necessity, rather than the operation of choice, since the advent of the present era of asepsis has rendered it a safe procedure. I will undertake to show that this operation is indorsed by many men of large experience in the impossible perineal cases by anterior methods, and then having clearly shown the advantage of the posterior or intravesical method, I hope to indicate a method better than cystotomy, in regard to ease of performance, saving of time, avoidance of so extensive trauma, and hence a minimum or absence of shock and a practical elimination of after-treatment as regards the suprapubic wound.

In a paper on suprapubic cystotomy for retrograde catheterism as a guide in these cases, in the *International Journal of Surgery* for October, Howard Crutcher quotes from the personal experience of several men whose statements will be accepted as authoritative, the tenor of whose utterances brings forth no uncertain sound. Since the establishment of the suprapubic route is a matter of such consequence to this unfortunate class of cases, as well as to the good showing of the case records of the surgeon, I take the liberty to repeat some of the quotations as used by Dr. Crutcher in his able and instructive paper, some of which are evidently from personal letters to him. Bernays says:

> I simply got lost, and my only way out of trouble was a suprapubic section, which permitted retrograde catheterism. I make this confession and authorize you to use it in your paper. I will say, in addition, that I have never been in that fix since then, and am a great friend of the Cock operation. I have done Cock's operation over fifty times, always with success, in cases of impermeable stricture. In 70 per cent. of these cases a urethra can afterward be established by the ordinary methods of dilatation. In some of the others a perineal opening may be permanent.

As Dr. Crutcher pertinently says, the success of Bernays' cases can not be taken as the criterion of other less skilful operators. In the same paper he quotes Halsted as saying:

> I can not give you the details, but I know that it seemed to me, at the time, impossible to reach the deep urethra in any other manner. I think that almost every surgeon of large experience in genito-urinary work has found it necessary, occasionally, to resort to this procedure.

Speaking of his two cases, Murphy says:

> Both of these cases were in the acute stage (gangrenous) from the urinary infiltration. One was the result of a physician having attempted to pass a sound; the other resulted from traumatism in the perineum. Both cases had been neglected, and in one the infiltration was so great that the subsequent gangrene destroyed the corpus spongiosum in its entire length, and the urethra from the prostate to the meatus, as well as the dartos and scrotal tissue, so that the testicles were exposed and had to be covered with flaps from the thigh. The final urethral opening was deep in the perineum. In both of the cases the urethral catheter was passed from above downward and perineal drainage instituted. When I was an interne in the County Hospital I saw two cases of this kind operated on by attending surgeons, both of whom performed what is known as Cock's operation, and both patients died.

Valentine says:

> It seems to me a general proposition that suprapubic cystotomy is required in obliterative changes (as from traumatism, urinary infiltration, suppuration) which prevent the finding of the urethra via the perineum. Indeed, I do not appreciate what other recourse one can have in such a condition, when the bladder can not be reached through the urethra.

Lydston says:

> I consider a retrograde exploration and instrumentation via a suprapubic cystotomy much safer than a prolonged and tedious search for the urethra via the perineum. I have been practicing it for ten years. I rarely fail to enter the bladder perineally, but when I do not succeed within a moderate time, I go in above.

Matas says, in part:

> In a large experience in external urethrotomy for stricture, covering over eighty-five cases in fifteen years, I have been compelled to perform retrograde catheterism by suprapubic cystotomy in four cases in all, every time successfully and with the most satisfactory results. In all but one case there were perineal fistulæ, and in all I had to resort to suprapubic cystotomy after failing to find the lost and displaced vesical end of the canal. Notwithstanding prolonged and careful dissection of the perineum, I was led to adopt this procedure after losing a patient in my earlier practice, by attempting to tap the bladder in the perineum by Cock's method. . . .

> My success with retrograde catheterism by the suprapubic route has led me to adopt and recommend this as a regular procedure, to be utilized at a much earlier moment in the operative act than I would have adopted in former years. This method is far preferable to a long, exhausting and traumatizing search made in the perineum in difficult cases, more especially in those chronic, neglected cases of stricture in which the perineal and periurethral tissues are riddled with fistulæ and sinuses opening in a mass of hardened cicatricial tissue resulting from periurethral cicatricial abscesses and infiltration. In such cases the urethra is often obliterated for a considerable distance, and the channel is tortuous, deviated and displaced, so that its normal anatomic bearings are lost or unrecognizable. In such cases a filiform can not be introduced and there is no possible guide to the urethra. . . . I claim that it is a most safe and reliable expedient, which should be resorted to much earlier and oftener than is now done in difficult cases.

Such commendation of the suprapubic route from so good an operator as Matas should carry great weight, and surgeons should not permit "Operators' pride" to impel them to a tedious and prolonged dissection of the perineum, impairing the facility of its tissues to assume the functions of the urethra, in those cases in which a new channel is made, and greatly increasing the perineal trauma, with its consequent tax of nerve power and lowered resistance, and hence greater liability to sepsis.

Crutcher's own experience with the suprapubic route is four cases, all of which recovered, and which he says, "appears remarkable when it is borne in mind what an amount of senseless perineal traumatism was inflicted on some of them."

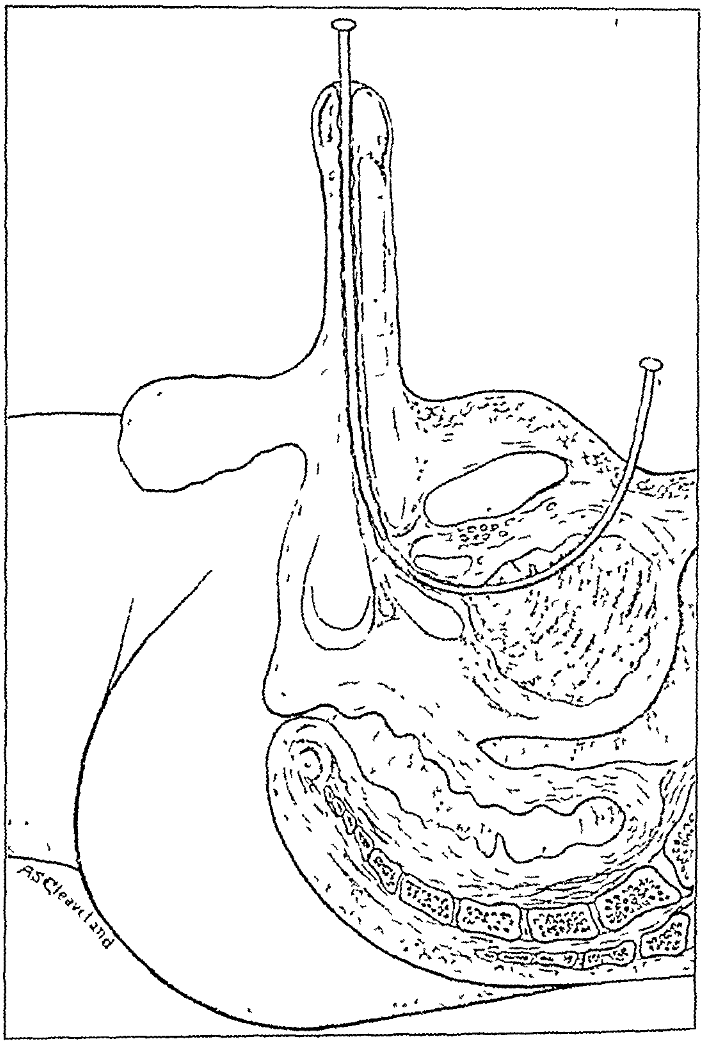
In the American Text-book of Genito-urinary Diseases, Lydston says:

> Should it be impossible to pass a guide through the stricture after its anterior surface has been exposed, the urethra may be opened up posterior to it, and an attempt made to pass a probe or bougie from behind forward. Failing in this a dissection must be made from before backward in the normal direction of the urethra. In a case of this kind the author would be inclined to perform suprapubic section and retrograde catheterism. This procedure has on several occasions been invaluable to him

While it is true that some operators of large experience have never met cases in which there were complications compelling a resort to the upper route, the testimony of those quoted is sufficient to establish beyond cavil the comparative frequent occurrence of such cases I believe the use of a posterior guide is neglected far too often; even though it could only be done by suprapubic section; but when it is shown to be perfectly feasible to thus certainly locate the urethra by suprapubic puncture, with no more trouble and no more danger than a simple palliative aspiration of the bladder, neglect of a means so available converting one of the most tedious and difficult operations in surgery into one so simple and easy of performance that a tyro can do it, is certainly a reprehensible omission.

My experience with suprapubic puncture for this purpose is confined to two cases, but the results of both were so perfect, and the cases, which were both due to extensive trauma, and to which I had gone realizing the prospects of trouble, born of a knowledge of the usual difficulties, were converted into so simple a problem that I wondered at my previous trepidation. The adoption of prevesical puncture for posterior catheterism as a guide was largely the result of accident—at least, its employment was not the outcome of systematic study of the question, it never having occurred to me to think of any other alternative should I meet a case of impermeable stricture not operable by other means than suprapubic section. I will describe the case in which, on Sept. 20, 1899, I first used the measure under discussion.

The patient was a negro man about 55 years old. He had received an extensive injury to the perineum by falling astride a wagon wheel while attempting to jump from the vehicle. A ragged laceration of the urethra resulted, accompanied by general inflammation of the periurethral tissues and perineum. Retention of urine was complete for twenty-four or forty-eight hours. I did not see the case until four months after the accident, and in the meantime an external urethrotomy was done by the Wheelhouse method; the operation, however, afforded only temporary relief, not being followed, as it should have been, by the usual dilatation with sounds. At the time I saw the case retention was complete, and tapping had been resorted to the two previous days.



Prevesical puncture as a guide, seen in sagittal section

The perineum presented a very swollen, fistulous surface, with pus discharging from several places. I felt sure that the scars from the original wound, supplemented by those of the former operation and the present infected and misshapen condition, would make an entrance into the bladder from below impossible, and, while considering the case, the patient demanded relief from the distended bladder, which was paining him very much. Realizing that I would have to repeat the vesical aspiration, it occurred to me that I could use the cannula as a passage or pilot for a post-urethral guide, without resorting to section, and the unsanitary surroundings led me to believe that this would be less liable to cause infection and would also expedite the performance of the operation very materially. With this idea in view, I bent an ordinary cannula of medium size, similar to those accompanying a Pravaz aspirating syringe, with the trocar *in situ*, thus preserving a pervious and uniform caliber throughout. The curvature was slightly less than that of a urethral sound, since I believed that any discrepancy between the urethral curvature and that of the cannula could be overcome by the facility with which the position of the cannula itself could be shifted, owing to the great degree of invagination above the pubis the mobility of the abdominal wall would permit, and which also constituted the fulcrum at the point of puncture. I inserted the trocar and cannula thus prepared, aspirated the urine, washed out and refilled the bladder with salt solution as an aseptic precaution and also to prevent collapse of the vesical walls, impeding catheterization, and, grasping the penis, that the urethra might present as few obstructing folds as possible, a long silver sound, bent in its entirety to the same arc as the cannula, was introduced, and it immediately dropped into the dilated proximal urethra; the usual dilatation of the urethra, posterior to the stricture in these cases, augmented greatly the ease of the procedure. Another sound was held in position in the penile urethra, as is usual in external urethrotomy. The penis was held in an extended position by an assistant, and the ends of the two sounds could be distinctly felt in the perineum, separated from each other about an inch and a quarter. An incision was made between the two, a catheter introduced, all pockets laid open, cleaned and drained, and the wound simply dressed with gauze, owing to the bad and suppurating condition of the parts. The little puncture in the anterior bladder wall demanded no dressing, it amounting, of course, to no more than an ordinary puncture for the relief of distended bladder. Considering the bad condition, the patient made a rapid recovery and got well with a fairly good urethra. Ether was the anesthetic used in this case.

My second case was very much like the first, except that there was no suppuration and no fistulæ, and while I could not pass a very small filiform, it might have been done after rest in bed, hot fomentations, and the usual preliminary treatment in such cases. My previous success with suprapubic puncture, however, rendered me optimistic about the case, and I felt convinced that the simplicity of the operation made it by far the more conservative course to pursue. Local anesthesia with cocain was used. No difficulty was experienced, and a catheter was introduced and the skin and musculature sutured over it.

The only special precaution necessary in this operation is to see that the bladder is distended with urine before making the puncture, so that the peritoneum will not be endangered; but as relief from the pain of distention is one of the urgent symptoms for which the operation is primarily done, the risk of puncturing an empty bladder, and possibly injuring thereby other structures, is very small, even though no special attention is given the matter.

The danger of urinary infiltration or sepsis following prevesical puncture is reduced to a minimum; the small opening in the bladder made by the trocar, smaller even than the instrument itself since fewer fibers of the bladder wall are cut when that viscus is distended, than would be the case if empty, and hence a more complete closure of the opening following contraction, and, of course, less liability of leakage, which is made still more improbable by the dorsal decubitus, a position that should be maintained for forty-eight hours for this reason, and also to favor thorough drainage through the perineal wound or *per via naturale,* as the case may be.

I appreciate the fact that two cases, or two dozen, would be inadequate from which to deduce conclusions ordinarily, but the opportunities for treating these cases are not numerous in one man's experience, and one case demonstrates as well as a hundred the principle involved, viz., the practicability of entering the urethra by means of a curved cannula.

Now it seems evident to me that the far greater simplicity with which this operation is done makes it much preferable to the more complicated section, which entails more trauma, loss of time, danger of infection and requires more skill in performance and trouble in after-treatment, except, perhaps, in the rare cases complicated by cystitis of so severe a type that suprapubic drainage is necessary. The number of such cases, however, that can not be more successfully drained through the perineum is very small, the dependent position of the latter route making it more effective for the purpose.

I believe the time for groping in the dark in the attempt to enter the bladder by means of the Cock operation, or even Wheelhouse's method, is at an end, the internal guide so easily obtained by simple puncture, so simplifying the cases as to render the more difficult methods undesirable. To those who practice eustachian catheterism this will be perfectly patent, since the technic of the procedures is strikingly similar, the cannula representing the narial passage and the entrance to the urethra the eustachian meatus; retrograde catheterism of the urethra by the cannula is, however, much the easiest of performance, being but little more difficult than the now obsolete method of female catheterism without sight. Of course, cases admitting even the smallest filiform without too much delay in preparation afford the necessary guide and are readily dealt with by the Syme operation. I would only enter an earnest plea for the frequent adoption of retrograde catheterism in cases of impermeable stricture by the suprapubic puncture method, since it has, in my hands, converted a formidable and difficult operation into one of simplicity and ease.

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**Sudden, Non-Traumatic Blindness.**—Laquer observed in 5 cases during the last six months sudden blindness from a different cause in each. In one it was the result of hemorrhage into the vitreous from a vascular affection on a basis of albuminuria. The prognosis was deemed to be unfavorable and the results confirmed this assumption. In other cases the cause was embolism, or retrobulbar neuritis, anemia from prolonged hemorrhage or preretinal hemorrhage. The embolism in the central artery was correctly diagnosed as the ramifications of the lower branch of the artery were nearly obliterated when first seen eleven weeks after the blindness had suddenly developed. No other cause could have reduced their diameter to such an extent in such a brief space of time. Treatment was ineffectual. The prognosis was announced as favorable in the case of retrobulbar neuritis on a probably rheumatic basis. The improvement under the salicylates and the gradual return of the primary pupil reaction before vision was restored corroborated this view. The patient was a young girl who had suffered from rheumatic pains in arms and shoulders. She took in all 60 gm. of potassium iodid in about two months. The blindness had come on suddenly and was complete, but vision was completely restored in two months. In another case a young girl "took cold" returning home from a ball in winter, and the next day she could scarcely see with one eye, the disturbance increasing to nearly complete loss of vision. Recovery was obtained in this case likewise in the course of two or three months under sodium salicylate for a few days followed by potassium iodid. In still a third case he witnessed restoration of vision after unilateral blindness from retrobulbar neuritis, although a year elapsed before the patient was entirely cured. In the case of loss of vision in one eye from anemia the blindness was permanent, and Laquer remarks that he never knew a case of this kind to terminate otherwise. His article is published in the *Klin.-therapeutische Wochenschrift* X, No. 23, 1903.

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### DEATHS OF THE YEAR 1903.

In THE JOURNAL of Jan. 10, 1903, were noticed the deaths of 1,400 regular practitioners in the United States. During 1903 the deaths of physicians in the United States and Canada numbered 1,648.* This is probably within 5 per cent. of the total mortality in the medical profession of North America. The number of physicians in this country can only be estimated, we are sorry to say, but a close estimate would place the number at 120,000.

In 36.6 per cent. of the cases no cause of death was given or the cause alleged was incorrect or incomplete. Heart disease, which undoubtedly includes a number of cases of sudden death and cases of so-called "heart failure," was given as the cause of 163 deaths; pneumonia stands first among the legitimate causes of death, with 109; tuberculosis caused 89 deaths; nephritis 84 deaths; paralysis, which is relatively indefinite, is reported as having caused 96 deaths; apoplexy, another relatively incorrect term, 60 deaths. Accidents of various kinds caused the death of 71 physicians. Of these, 8 were due to drowning, 16 to falls, 11 to poison, 5 to burns, 5 to runaway accidents, 14 to railway accidents, and 4 to street-car accidents. Nine physicians were murdered; there were 24 suicides and 1 case of justifiable homicide. Among other principal causes of death are typhoid fever, 48; septicemia, 21; appendicitis, 26; cancer, 27; angina pectoris, 18; diabetes, gastritis and rheumatism, each 10; meningitis, 16, and uremia, 15.

Of the 1,648 deaths of the year, 147, or 8.9 per cent., were members of the American Medical Association. The extreme limits of age were 21 and 101, 2 deaths occurring at the former and 1 at the latter age. The maximum of deaths occurred at 65, at which age 47 physicians died. Next come 60 and 78, with 36 deaths; 62, with 35 deaths; 70 with 34 deaths; 75, 73 and 45, with 33 deaths. Above the age of 90, 15 deaths occurred.

The years of practice varied from the first to the seventy-fifth year. In 181 cases, or 11 per cent. of the total, the length of practice was not stated. The greatest number of deaths occurred in the twenty-fifth year of practice, in which 51 were recorded. In the twenty-eighth year, 40 were noted; in the thirty-third year, 39; in the twentieth and thirty-seventh years, 37; in the twenty-first year, 36; in the thirty-fifth year, 30; in the twenty-ninth and twenty-fourth years, 32; in the nineteenth, twenty-fourth and twenty-ninth years, 32; and in the twenty-seventh year, 31, and in the thirty-sixth and forty-fifth years, 30. Of the entire number, 209 physicians had practiced more than half a century, and 2 had been in practice seventy-five years at the time of their death. During the year of graduation, 8 physicians died; in the first year thereafter, 15; in the second, 20, and in the third, 16.

The annual death rate per thousand for 1903, based on an estimate of 120,000 physicians, was 14.42, a rate lower than that of most great cities. This goes to substantiate our statement of last year that notwithstanding the risk of disease and exposure to which physicians are unusually subject, they lead a relatively sanitary life and practice what they preach.

### SUBPHRENIC ABSCESS.

Many conditions which when first described are looked on as of interest merely from a diagnostic or pathologic standpoint, later when more fully understood are frequently treated surgically with success. Collections of pus beneath the diaphragm offer a very good example. It is only within the past few years that such cases have been at all frequently reported, and up to within a short time it has been rare to see a report of more than two or three operations for this trouble by one surgeon.

A report of sixty cases operated on by Körte of Berlin in his private practice and service at the urban hospital during the past twelve years, would indicate that the condition is relatively frequent and that patients are sometimes allowed to die from lack of surgical treatment because the condition is not recognized. Grüneisen[1] gives abstracts of Körte's series of cases, and some very interesting facts which may be deduced from an analysis of them. Regarding the etiology of this condition, he finds that the infection most frequently originates from the vermiform appendix; perforating ulcer of the stomach or duodenum also occasionally causes the trouble and among the less frequent causes are abscess of the pancreas or liver. The infection may also find its way into the subphrenic space from above in disease of the lower ribs, the pleura or the mediastinum. The clinical picture varies according to the pathologic condition giving rise to the abscess. In most cases the first symptoms are those of localized peritonitis. Pain is not a constant symptom, neither is absence of fever evidence of the non-existence of abscess. Physical examination often gives characteristic signs early; the bulging of the lower part of the thorax and increased area of dullness in the region of the liver are important signs, and if the abscess contains gas there is usually a tympanitic zone between lung resonance and the liver dullness below.

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* During 1902 the deaths of regular physicians only were recorded, during 1903 those of eclectics and homeopaths were included.

[1] Archiv für klinische Chirurgie, 1903, vol. lxx, p. 1; THE JOURNAL, xli, p. 583, title 26.

In many cases a definite diagnosis is impossible; for example, in certain cases of encapsulated basal empyema or liver abscess. Exploratory puncture is not without danger, but it is considered justifiable in case preparation is made for immediate radical operation if pus is located. The prognosis is favorable if an early diagnosis is made and pus freely evacuated; 40 out of the 60 cases were saved by operation. The abscess may be evacuated either by incision at the costal margin in the epigastrium or in the lumbar region, or by the transpleural route after resection of one or more ribs. The last-mentioned operation is best adapted for free drainage in the majority of cases. Frequently there are adhesions between the diaphragmatic and parietal pleura. If not, it is thought wise to suture the two layers of the pleura before evacuating the pus. In still other cases infected fluid in the pleural cavity or even empyema may co-exist, in which case the abscess and the pleural cavity are drained through the same opening.

This is probably the most valuable contribution that has appeared on this subject, and the large number of cases reported in the experience of one surgeon emphasizes its importance. Comparatively few cases have been reported in America, though we doubt if any surgeon of wide experience has failed to see at least one or two. No doubt a considerable number of lives are sacrificed every year because such conditions are not promptly recognized and treated, and anything which brings the knowledge of more obscure conditions promptly before the profession is of importance. A great service has been rendered to the profession by those of its members who have laboriously collected statistics of scattered cases by many operators in various parts of the world, published in many different languages. These collected statistics, however, are not as valuable as the wide experience of one competent observer and operator. The careful tabulation of 179 cases of subphrenic abscess by Maydl will be remembered by many who have been following surgical literature, and for a number of years practically all of our definite knowledge has been based on this tabulation. Körte's personal experience in over one-third as many cases as Maydl tabulated from all literature gives us much clearer information on many points and shows how greatly the death rate may be reduced in the hands of a competent operator. Maydl's statistics give 50 per cent. mortality in this condition. Körte's mortality is only 33 per cent.

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## WHY SCIENTISTS ARE POOR WRITERS.

"A Plea for Better English in Science" is made in a recent number of *Science*. The writer has passed judgment on about 100 manuscripts submitted by scientists, and decides that but 19 per cent. are good, 57 per cent. fair, and 24 per cent. are poor. Of these authors, about 75 per cent. have had collegiate or university training, and no fewer than 20 of them are now professors or instructors in leading universities and schools of science. Yet most of these 20 are placed in the "fair" class, and some even "poor." "Thus it appears that scientific and university life, with the preparation in lower schools which this implies, does not insure good English." This deficiency is ascribed in large part to neglect, the ability to write clearly and forcefully is considered as lying dormant, lacking a stimulus properly directed to bring it to light. If this is the case, then our universities are woefully deficient in applying stimuli, for it is indeed questionable if better ability to use our pliable language is to be found among those whose scholastic education continued beyond the high school than among those who stopped at or short of that point, but who subsequentlyy have occupied similar places in life. The collegiate instruction can enable the student to fight shy of the split infinitive, and to appreciate the horrors of the terminal preposition; but it can not often succeed in enabling him to write readable letters, much less interesting ones, if he could not already do it before his matriculation papers were filed. Writers are surely among those who are born and not made, and the correct use of English that can be acquired bears little relation to the forceful and attractive writing of which many of little education are capable. But why should scientists so often be poor writers and so seldom forceful, not to say entertaining?

We contend that something more than mere chance or simple carelessness is involved. Is it not that the very nature of his thought and work and the exacting requirements of scientific precision of expression, by themselves annul much of any natural trend towards pleasing use of language? Can a man be expected to have much left in the way of attractive expression after writing results of researches on meta-diazo-xylene-sulphonic acid, or what not, for several years? Is the description of the arrangements of the fibers in the dorsal roots of the lumbar plexus of *Mephitis mephitica* conducive to scintillating epigram? We are inclined to believe that a naturally brilliant writer will become more or less prosy after taking notes and writing theses on most of the topics that are open for research. Opportunities are now few for broad generalizations to which force can be given by figures of speech. May this not be the reason for the frequent complaint about the absence of literary ability in the general run of medical papers? Let us take the case of a young man stimulated to appreciate the poetic in nature and to reproduce it in his writing, by his first teacher of "English literature and rhetoric." He begins the study of medicine, and promptly his literary efforts are restricted to answering "eight of the following ten questions" in two hours. Osteology touches few poetic chords, and even the aroma of urinalysis fails to induce anything graceful in the "possible sources of error in the tests for albumin." Myology, angiology, et al, are as little inspiring, except for the production of

"On old Minerva's peaked tops," etc. Perhaps in physiology or pathology there appears something to warm the fast waning fires of poesy, but there is little opportunity for literary effects in a sheet of pink examination paper. If, perhaps, the struggle of the leucocyte and the bacterium appeals to him as Homeric, and he refers to a scar as "the monument to the martyred leucocytes erected by the grateful tissues they have saved," some hard-headed instructor will probably blue-pencil "Prolix" across the ode.

The author of the article in *Science* appeals to scientific men to cast off their indifference to the beauties of language, and to devote to their writing some of the energy they manifest in research. We fear, however, that the trouble does not lie merely in a lack of volition, but rather in the very tendencies of research itself; and as this tendency appears to be essential to exactness, its influence will not be easily overcome. Only occasionally can we expect a man with the innate genius to pass through this influence and to come out with the ability to be scientifically exact and at the same time brilliant in expressing himself. There are few men who can stimulate us with apt references to Sydenham's big toe. or Benjamin Rush's purgatives without being either absurd or tiresome. Such a talent is not the product of education or intention alone.

## THE PATHOLOGIC ANATOMY OF PARATYPHOID FEVER.

Some time ago[1] we called attention to the class of cases whose symptoms, although they clinically resemble typhoid, are caused by a group of organisms standing between the typical colon and typhoid bacilli in cultural characteristics. This group of organisms shows among its individual members slight cultural differences, no greater than those between various strains of colon bacilli. Because of its intermediate position the organism has been variously designated as the "paracolon" or the "paratyphoid" bacillus. The results of the infection have also been various, the organism having been found sometimes in local abscesses, sometimes with pyemic manifestations, and often with a clinical picture very similar to that of typhoid fever. Therefore, it would seem justifiable to make a distinction on clinical grounds and to separate cases that resemble typhoid from those that do not, even if the infection is by similar organisms, the first class of cases being referred to as "paratyphoid fever"; the other by the general term of paracolon infection, or, for specific cases, as "paracolon pyemia," etc.

Paratyphoid fever, on this basis, while much like true typhoid, offers in any series of cases some slight differences in that the course is usually milder, and that diarrhea and hemorrhages are less frequent, although severe hemorrhage from the bowel occasionally occurs. Of course, the most suggestive feature is the absence of the Widal reaction when the patient's serum, diluted as high as 1 to 40 or more, is used against true typhoid bacilli. Any case with fairly conclusive clinical evidences of typhoid that does not give the agglutination reaction should be looked on with suspicion as possibly being *paratyphoid*. As there are differences in the agglutination reactions among the different members of the group, a negative result when the agglutination test is made with known cultures of paracolon bacilli is not at all conclusive evidence that the case is not paratyphoid, so the most reliable method of diagnosis is by all means the securing of blood cultures.

Because of the infrequence of fatalities the anatomic condition present in this disease has not been studied to any extent, and it has been an open question whether it did or did not resemble true typhoid closely. There are now, however, five recorded autopsies in cases with the clinical and bacteriologic features of paratyphoid fever, and as there is a fair degree of correspondence between them, Wells and Scott,[2] who report the fifth case, consider that they afford a good idea of the usual anatomic picture. It would seem that the differences from true typhoid are anatomically quite marked, despite the clinical resemblance and the occurrence of bowel hemorrhages. In fact, the lesions are much more like those of simple septicemia than like typhoid. The only constant feature of the five cases is splenic enlargement, which is similar to that of all the fatal bacteriemias, including typhoid. On the other hand, the lymphatic apparatus of the alimentary tract, including Peyer's patches, solitary follicles and mesenteric glands, is entirely free from swelling or the other changes so characteristic of typhoid. In two of the five there was no ulceration; in one a very slight superficial necrosis, and in two shallow, dysentery-like ulcers of the intestine. These did not in any case resemble the ulcerations of typhoid, not involving the Peyer's patches and being without the usual swollen margins. Microscopically the differences are even more marked, for there is none of the proliferation about the ulcers and in the lymphatic structures that characterizes typhoid, and in fact the borders of the ulcers present no evidence of reaction of any kind. Focal necrosis in the liver and parenchymatous degeneration of the kidneys constitute practically all the remaining lesions, so it will be seen that the anatomic changes are not great, and also that there is nothing characteristic about them. Similar pictures may be produced by other organisms causing fatal septicemia, and it is possible that some of the cases that have been reported as typhoid without intestinal lesions have been really paratyphoid. It is indeed remarkable that two organisms producing such similar clinical manifestations and with general biologic peculiarities so nearly alike that their separation is by no means easy, should exercise such different effects on the body, one apparently without action on the intestinal lymphatic structures which receive the brunt of the attack of the other. One is reminded of Welch's hypothesis of the production of specific cellular toxins by bacteria against the cells of their host. The geographical distribution of the five fatal cases—Santa Cruz, Prague, Roumania, Philadelphia and Chicago—indicates that the paratyphoid organism is as widely distributed as the true typhoid bacillus.

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[1] The Journal A. M. A., Feb. 21, 1903, p. 520.

[2] Jour. of Infectious Diseases, 1904, 1, p. 72.

### THE INFLUENCE OF BURNS ON THE ANIMAL ORGANISM.

While it is recognized that the animal organism can be subjected to moderate elevation of temperature, for not too long a period, without directly deleterious effects, it is equally appreciated that there is danger from great elevation, particularly if long continued. It is believed that, in consequence of the latter, changes take place in the blood and the other tissues incompatible with the maintenance of life. Such changes must occur, at least locally, in exaggerated degree in burns, and a more intimate knowledge of the processes resulting under such circumstances may throw light on those attending the febrile state.

Among the phenomena that have been observed in the sequence of burns of the surface of the body are morphologic alterations in the red blood corpuscles, even to the point of complete destruction; escape of the hemoglobin of the erythrocytes into the blood plasma; partial formation of small thrombi, causing ulceration, for example, in the intestine; alterations in the cells of the nervous system, the uriniferous tubules, etc. In the belief that cytotoxins must play an important part in the development of these phenomena, von Dieterichs[1] undertook a series of investigations on animals, to determine whether, in connection with burns of the surface, autolysins and autoagglutinins, isolysins and isoagglutinins, and heterolysins and heteroagglutinins are present in the blood, and in what proportion. He reasoned from existing knowledge that specific fixators (intermediary bodies, amboceptors) appear and unite with non-specific cytases (alexins, complements) always present in the blood serum, and form cytotoxins, which, on the one hand, cause agglutination of the red blood corpuscles, with the development of their hemolysins, and, on the other hand, possess cytotoxic and cytolytic properties for various cells of the body. As a result of his observations, he has reached the conclusion that elevation of temperature gives rise especially to complete or partial destruction of the cellular elements of the blood and the tissues. This is followed by the formation and accumulation of cytotoxins (hemotoxins) in the organism, which are injurious not only to the cells of the body itself (autotoxins), but also to the cellular elements of other animals of the same species (isotoxins), although in lesser degree, and also for animals of another species (heterotoxins). The formation of the cytotoxins of the blood takes place probably with especial activity during the first five or ten hours after the inception of the burn, and then gradually diminishes. As endeavors to render the serum inactive by exposure to a temperature of 57 C. for twenty-five minutes yielded a positive result, it can be assumed that the hemotoxins formed as a result of burns also consist of two parts, a specific fixator (amboceptor of Ehrlich) and a non-specific cytase (complement), which is readily destroyed by the action of various agents. In addition to hemolysins, there appear in the blood of animals agglutinins, whose action appears later than that of the bodies already mentioned. To their action are due the emboli and thrombi found after death.

The changes in the blood after burns are fully explained by the formation of hemolysins and hemoagglutinins. The presence of other cellular poisons may be suspected in the organisms of burned animals, whose specific effects on cellular elements of a definite kind can be compared with the action of the hemolysins and hemoagglutinins on the elements of the blood.

### THE IMPORTANCE OF RESISTANCE TO TUBERCULOSIS.

Dr. Sims Woodhead's Phipps lecture[1] on pulmonary tuberculosis is notable for its optimistic utterances as to the curability of the disease, and as to the importance of germs as compared with the importance of a body capable of resisting disease. Dr Woodhead's own experience shows that in a very large proportion of lungs of old people dying from other causes than tuberculosis, there were gross macroscopic evidences of the former occurrence of the disease, and probably had his examination been as minute as those of Naegeli, a still larger proportion might have been found. He says he has handled, inspired and probably ingested tubercle bacilli for many years, and yet he has not tuberculosis. It is the soil, not the seed, as has been stated many times by others; the defense, not the extirpation of the germs, on which we must place the most reliance in our conflict with tuberculosis. This, of course, does not imply that the active fight against the infection is to be neglected or that the extirpation of the germs is not also an object, but it should not be the sole aim in our treatment of the condition.

### THE JOURNAL OF INFECTIOUS DISEASES.

We have received the first issue of the above journal—a unique publication, in that it is, so far as we know, the only medical journal that is endowed. It has been established in connection with the Memorial Institute for Infectious Diseases, founded by Mr. and Mrs. Harold McCormick, but the journal is specifically endowed independent of the institute. As its name indicates, it is to be devoted to the publication of original investigations dealing with infectious diseases, their etiology and prevention. It will have a special field to itself, and we are told that only such contributions as bear directly on the topics indicated will be published. "The biology and chemistry of the various pathogenic micro-organisms, the physiology and anatomy of the morbid processes that they initiate, and the hygienic and sanitary problems to which they give rise are considered to be especially within the scope of the undertaking," is from the announcement contained in the first number. The first issue contains eleven original contributions, and consists of 210 7x10 pages, single, wide columns, and is printed on excellent paper. Typographically, the journal is excellent. The illustrations, made on heavy glazed coated paper, come out remarkably well. The journal is under the editorial management of Drs. L. Hektoen and E. O. Jordan, and Drs. Frank Billings, F. G. Novy and W. T. Sedgwick are named on the title page as associate editors. The journal will be issued at irregular intervals, as rapidly as the amount of material warrants, each volume to contain 500 pages. The subscription price is $5 per volume. The medical profession of the United States is to be congratulated on this further evidence of the interest that rich men are taking in scientific medicine, and especially on the fact that it will carry to the old world another proof that this country is doing at least its share in the progress that is being made in scientific medicine in the twentieth century.

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[1] Wiener Medizinische Wochenschrift, Nov. 21, 1903, p. 2206

[1] Med. News and Amer. Med., January 2.

## THE PROPOSED POST-CHECK CURRENCY.

The inconvenience attendant on sending money by mail will be greatly lessened if the post-check currency bill, introduced into Congress by Mr. Gardner of Michigan, becomes a law. The bill contemplates the issue of the present United States $1, $2 and $5 paper currency with blank spaces on which may be written the names of the sender and the payee. So long as these spaces are blank the bills will pass current as do the present greenbacks. A person wishing to send money by mail will affix and cancel a one- or two-cent stamp, and then will write his name and the name and address of the one to whom he wishes to send the money. Then the bill may be placed in an envelope and mailed without more formality or trouble, and the bill becomes payable only to the person named on its face. The recipient can redeem it at any postoffice or bank; after which it is not reissued. A further proposal is to issue fractional currency of denominations of 5, 10, 25 and 50 cents, but this is a separate matter. The whole plan is so delightful in its simplicity that to mention it can only be to commend and to compliment the inventor, Mr. C. W. Post. Of course, it will be impossible to send $1.63 by post-check currency, there being no bill for that amount; but when the proposed bill has become a law, we shall have taken a long step toward the easy transmission of money by mail. It will be seen at once that if bills are issued on this plan there will be a cleaner lot of paper money, and it is especially to be advised for this reason alone. But physicians and all who send money by mail will find it a great convenience.

## THE IROQUOIS THEATER FIRE.

The awful theater disaster at Chicago December 30, which has stirred the country more than any other recent event, has in it many lessons which it is to be hoped will be utilized against future accidents of the kind. The most pitiful feature of the case is that it occurred during the holidays when the city schools were not in session,[1] and thus a larger proportion of the audience were women and children than is usually the case, even at matinees; and such an audience is naturally less self-helpful and resourceful than one composed of adult men. Many of the victims were trampled down and smothered, as the absence of burns on their bodies testified. It is doubtful, however, whether this wild panic, in which so many lives were sacrificed, could have been absolutely avoided, even had the crowd attempted to go out quietly and orderly. There would have been a certain loss of life from the draught of the flames into the upper galleries, but that the loss of life should have been so great in a building supposedly fireproof and which is left so little structurally injured after the event, is one of the striking features of the case. The greatest lesson which the holocaust teaches us, however, and which we think should be most of all considered, is that under no circumstances could all those in the upper galleries have escaped through the narrow exits provided. No theater that is inclosed by other buildings, as is the Iroquois, and that has heavy walls with few and narrow openings, can be considered safe. Every theater should have ample exits on at least three sides, so that in a panic every part of it can be emptied in a few minutes. The exits should be so made that under no circumstances could they remain closed against pressure from within. If this lesson is properly learned, we may hope for no recurrence of such a holocaust as that of Chicago. Panics may occur—we can not insure against them—but their consequences will be less disastrous. Automatic sprinklers, steel and asbestos drop curtains and every other appliance against fire should be provided as well as plenty of aisle space, but all these are as nothing compared with ready and ample means of exit. Regardless of the amount of danger or the cause of fright, there is no greater cause of panic than the failure of the audience to see abundant avenues of escape. Thousands of lives have been sacrificed on a false alarm of fire, and will be again if provision is not made for the panic of the multitude.

# Medical News.

## ILLINOIS.

**Physician's Estate Sued.**—Dr. Jeremiah H. Stealy, Freeport, has sued the estate of the late Dr. W. S. Caldwell for $18,000 alleged to be due him for extra services performed while Dr. Caldwell was taking a trip around the world.

**Sanitary Inspection of Cities.**—The State Board of Health announces that instead of seventy-five cities inspected, as reported in The Journal of last week, one hundred cities have been covered by the sanitary inspectors of the board.

**Smallpox Called "Itch."**—Because of an epidemic of mild smallpox, which is called "itch," the Cottonwood school, Champaign County, has been closed.——The quarantine established by Shawneetown against Ridgway has been lifted, by order of the State Board of Health.

**Personal.**—Dr. Guy G. Dowdall, Clinton, has been appointed division surgeon for the Illinois Central Railroad, vice Dr. John M. Wilcox, resigned.——Dr. Henry Richings, Rockford, on March 4, will celebrate the fortieth anniversary of his entry into practice. The Winnebago County Medical Society intends to hold its annual banquet on that date with Dr. Richings as the guest of honor.——Dr. George W. Parker, Mount Sterling, and wife have sailed for Europe, where they expect to remain two years.

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[1] Among the dead were 38 teachers and 96 pupils of the Chicago public schools.

## Chicago.

**Will Have Its Own Training School.**—Cook County Hospital announces that it will soon establish a training school for its own nurses.

**Mortality of the Week.**—Not including those killed in the Iroquois Theater fire the dead of the week ended January 2, number 604, an annual death rate of 16.18 per 1,000. Pneumonia, as usual, leads with 146 deaths; consumption had 56, and Bright's disease 52 deaths.

**Deaths of the Month.**—During December 2,354 deaths were reported, a death rate per 1,000 of 14.69. (This does not include the fire victims.) Pneumonia leads with 498 deaths, consumption comes next with 228, and violence and Bright's disease are each credited with 166.

**Personal.**—Dr. P. Maxwell Foshay, Cleveland, whose marriage is announced in another column, will, we understand, locate in Chicago, early in April, and will be resident medical director of the new branch of the Mutual Life Insurance Company of New York, which has recently been opened there.——Dr. W. Harrison Hipp has been reappointed a member of the State Board of Health.

**The Deaths of 1903.**—Including the 587 deaths in the Iroquois Theater fire the Department of Health reports that the total deaths for 1903 will number 28,940, instead of the 28,353 given in the statement of mortality for the year. This will increase the death rate from 15.04 to 15.35 per 1,000. Deaths from violence were already more than 12 per cent. in excess of the average for the period since the census year 1900; but these 587 theater deaths swell the excess to 41.5 per cent. over the yearly average of violent deaths. Even with this addition to the total mortality, the death rate is 6 per cent. lower than the yearly average since 1892, although it is 8.2 per cent. higher than that of 1901 and 5.3 per cent. higher than that of 1902.

**Effects of One Milk Delivery A Day.**—In the Bulletin of the Department of Health the effects of the arbitrary action of the milk dealers is thus characterized:

> The disastrous effects on child life—threatened by the barbarous action of the milk-wagon drivers in refusing to make more than one delivery of milk a day—were largely overcome by the relatively cool weather of the summer, by unusual effort in milk inspection (including the employment of an emergency corps of inspectors, known as "milk scouts"), and by an enormous development of the sterilized milk service fostered by the Woman's Club and Hospital Association.
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> As a matter of record the mortality of infants and young children during 1903 was lower than ever before known—8 8 per cent. less than in 1902, 9.4 per cent. less than in 1901 and 57 per cent. less than the average of the period between the two census years, 1890 and 1900. In 1891 the deaths of children under 5 years of age numbered 110.38 in every 10,000 of population; in 1903 they were only 41.7.

## MARYLAND.

**Insane Hospital Report.**—According to the annual report of the Maryland Hospital for the Insane, No. 1 at Springgrove, 631 patients were in the institution during the year ended October 31; 33 patients were discharged and 40 died. There were 79 new admissions. The number of cases due to alcohol is increasing. The institution needs additional land for farming purposes and an isolation building for infectious and contagious diseases, especially consumption.

## Baltimore.

**Banquet to Health Commissioner.**—The third annual banquet tendered by the health department to Health Commissioner Bosley, was held December 28. Quarantine Physician Heiskell acting as toastmaster.

**Woodhead in Baltimore.**—Dr. German Sims Woodhead, professor of pathology at the University of Cambridge, England, spent December 31 in Baltimore. He was the guest of Drs. Osler and Welch and spent several hours inspecting the Johns Hopkins Hospital.

**Disease on Increase.**—Scarlet fever and diphtheria are both prevalent and on the increase. The health commissioner finds it necessary to draw public attention to this fact. He thinks people are becoming careless and no longer fear scarlet fever. Many neglect to report its presence.

**Senses Hospital Report.**—The South Baltimore Eye, Ear and Throat Hospital reports since the opening, May 1, 1901, 1,323 patients have been treated, 56 of whom were house patients. In the dispensary there were 6,219 visits and 358 surgical operations. The expenses were $1,229; receipts, $1,136.

**Isolation Hospital Needed.**—The necessity of an infectious diseases hospital will again be agitated. A year ago a site was purchased in the suburbs by a commission of which Dr. Welch was chairman, but the residents obtained a legislative enactment forbidding the erection of the institution within a half mile of any of the parks. A suit is pending regarding the validity of that purchase.

**Medical Agency a Success.**—The City Medical Agency in South Baltimore having proven a success, a second one will be established in Northwest Baltimore. A male and a female physician are employed at each, and it is designed to cover the whole city. The addition to the Bayview Hospital a city almshouse of over 150 acres gives the city opportunity for great increase in facilities for caring for the sick. A house bought with the new land is being prepared as a hospital for female consumptives, and a contract has also been signed for a house to hold 70 male consumptives. The officials have visited New York to examine the methods there in vogue by tents and pavilions with the purpose of increasing the number of consumptives who can be cared for on the high and extensive grounds of the new farm. The supervisors are also laboring for an improvement in the nursing service and care of the insane.

**Deaths and Births in 1903.**—The health commissioner reports in 1903, 10,141 deaths, 30.59 per cent. being under 5 years of age. There were 8,620 births reported. It is noticeable that a considerably less number of white females were reported born and dead than white males. It is strange that this disproportion is not seen in the case of colored births and deaths. The annual birth rate was 16.17 per 1,000—namely, whites, 15.52; colored, 19.74. The annual death rate is less than any of the three previous years. The following are some of the causes of death: tuberculosis, 1,366; pneumonia, 1,101; heart disease, 757; Bright's disease, 693; diarrhea, dysentery and enteritis, 658; apoplexy, 369; cancer, 370; accidents, 416; old age, 258; bronchitis, 235; typhoid fever, 189; diphtheria, 160; influenza, 92; scarlet fever, 84; measles, 77; suicide, 58; puerperal septicemia, 57; whooping cough, 64; septicemia, 35; erysipelas, 26; malarial fever, 18; homicide, 14, and smallpox 2.

## MASSACHUSETTS.

**Bequests.**—The will of Mrs. Mary D. Converse makes the following bequests: Women's Charity Club Hospital, $2,000; Malden Hospital, $2,500.

**To Have New Dispensary.**—Charlestown Navy Yard is to have a new dispensary, a two-story building of brick and stone, 50 by 50, and to cost $11,000.

**New Gifts for Crippled Children.**—At the dedication of the new building of the New England Peabody Home for Crippled Children at Hyde Park, December 29, an additional gift of 33,000 feet of land was announced from Mr. Robert Bleakie, who gave 28,000 three years ago.

**Care of Consumptives.**—The Boston Association for the Relief and Control of Tuberculosis has issued a small booklet, which is to be given to children in the grammar and high schools of Boston, containing advice regarding the care of consumptives and rules to avoid danger from the disease.

**Epileptic Hospital Report.**—The trustees of the Massachusetts Hospital for Epileptics at Palmer report an average of 410 patients cared for there during 1903 at an average cost per week of $4.55. New buildings will soon relieve the present overcrowded conditions. They urge immediate provision for the large number of epileptic children at present unprovided for in the state.

**Boston's Insane.**—Boston sent 482 patients to the State Hospital for chronic cases at Tewkesbury in 1903 and cared for 215 others in her own almshouse and hospital on Long Island. Boston insane hospitals are as usual overcrowded, 286 women at Austin Farm and 283 men at Pierce Farm and 25 are to be removed to state asylums. At Christmas 42 patients were allowed to visit their homes.

**Doubles Boston's Water Supply.**—On December 29 water was admitted to the new acqueduct from the Sudbury dam. By this route the water travels 13 miles to the Weston equalizing reservoir and thence seven miles more to the Chestnut Hill Reservoir, whence it is distributed to the Metropolitan District of Boston. The new waterway has a capacity of 300,000,000 gallons per day and doubles Boston's water supply.

**Brigham Will Sustained.**—The decision of the U. S. Circuit Court sustains the will of Peter Bent Brigham and releases nearly $5,000,000 for the construction and maintenance of a hospital for the sick poor. He died May 24, 1877, leaving a large estate to be held in trust for twenty-five years. The corporation which has been duly formed may, therefore, forthwith proceed to the erection of such a hospital to be called the Brigham Hospital, the only restriction being that it shall be for the sick poor resident in Suffolk County.

**Investigation Committee Disagrees.**—The investigation of the Long Island Hospital by the city government of Boston has resulted in a disagreement in the committee. The majority, as was expected, finds many of the charges sustained. The minority completely exonerates the management. The move was a political one, with the purpose of finding excuse for a petition to the state legislature to abolish the unpaid board of trustees and substitute one paid commissioner. The present trustees have emphasized the hospital idea, have employed a medical superintendent, established a training school for nurses, employed a pathologist, etc., for all of which they are criticised in the majority report.

**Hospital Staff Changes.**—On January 1 Dr. Edward Cowles retired as superintendent of the McLean Hospital for the Insane at Waverly, where he has been since 1879. His first assistant, Dr. George T. Tuttle will become superintendent and Dr. E. Stanley Abbot, now assistant superintendent of the Boston City Hospital will take Dr. Tuttle's place, having practical charge of the women's side. Dr. Cowles will continue in consultation practice in Boston. Dr. Abbot was formerly assistant in McLean and returns there to devote himself to work in which he has already distinguished himself. Dr. Frank H. Holt will succeed him as assistant superintendent at the Boston City Hospital.

## MICHIGAN.

**Mr. Warren's Death.**—On November 11 Mr. William Matthew Warren, *general manager of Parke, Davis & Co., Detroit, died,* aged 39. He had been in the service of the firm for 22 years.

**The Test Case.**—In order to test the validity of the city ordinance requiring the filing of certificates of cause of death within 12 hours, Dr. Clarence B. Hernam, Grand Rapids, was recently arraigned for violation of the ordinance, pleaded guilty, and was fined $2 and costs.

**Communicable Diseases.**—Meningitis was reported present in November at 4 places; *whooping cough at 16 places;* measles at 31 places; smallpox at 53 places; diphtheria at 80 places; scarlet fever at 122 places; typhoid fever at 154 places, and consumption at 193 places. Meningitis was reported present at 4 places less; whooping cough at 3 places less; measles at 10 places more; smallpox at 11 places more; diphtheria at 3 places less; scarlet fever at 11 places more; typhoid fever at 31 places less, and consumption at 49 places less, than in the preceding month.

**Comparative Morbidity.**—For November, compared with the preceding month, influenza, pleuritis, pneumonia, erysipelas, whooping cough, measles and smallpox were more prevalent; and diarrhea, intermittent fever, inflammation of bowels, dysentery, remittent fever, cholera morbus and cholera infantum were less prevalent. For the same month, compared with the average for November in the last 10 years, smallpox was more than usually prevalent; and intermittent fever, erysipelas, inflammation of bowels, remittent fever, cholera morbus, whooping cough, measles and cholera infantum were less than usually prevalent.

**November Mortality.**—There were 2,623 deaths reported for November, or 1 death less than the preceding month. The death rate was 12.9 per 1,000 population. Important causes of death were as follows: Tuberculosis, 185; typhoid fever, 80; diphtheria, 112; scarlet fever, 14; measles, 7; whooping cough, 28; pneumonia, 206; cancer, 140; accidents and violence, 194. The number of deaths reported from typhoid fever was less than during October. Tuberculosis also showed a decrease, while diphtheria, scarlet fever and other diseases of children showed a considerable increase. There were no deaths from smallpox during the month, but one death from chicken-pox was reported.

## NEBRASKA.

**Police Surgeons Change.**—Dr. Stuart B. MacDiarmid, police surgeon, and Dr. F. J. Schieler, assistant, of Omaha, retired from office, January 1, and were succeeded by Drs. Isadore S. Trostler and Jay C. Decker.

**Personal.**—Dr. August F. Jonas, Omaha, who was operated on for gallstones by Drs. W. J. and C. H. Mayo, at Rochester, Minn., about a month ago, has gone to his former home, Madison, Wis., to complete his convalescence.

**Not Lepers.**—The sensational despatch from Lincoln announcing that there were 25 Russian lepers living in that city, has been investigated by the health officer and the city physician and declared to be totally without foundation.

**Vital Statistics of Omaha.**—For the first ten months of 1903, there were 1,764 births and 945 deaths in Omaha. There were 308 cases of scarlet fever, 71 of diphtheria, 106 of measles, 74 of smallpox, 70 of varicella, and 28 of typhoid fever, during the same period.

## OHIO.

**Fumigated During Vacation.**—By order of the Youngstown Board of Education, all the public schools of that city were fumigated during the Christmas vacation.

**Cincinnati District Physicians.**—The list of district physicians handed to the mayor as president of the Cincinnati Board of Health includes nine of the present staff, ten new appointees and leaves two vacancies to be filled later on.

**Typhoid Increasing.**—The health report of Cleveland for last week shows an increase in typhoid fever, of which 49 cases were reported, with 9 deaths. The total of cases was 121, which compared unfavorably with 5, the number for the corresponding week of last year.——At the state penitentiary, Columbus, the disease is said to be epidemic, 14 cases having been reported.

## PENNSYLVANIA.

**Railway Killed and Injured.**—From the report of the secretary of internal affairs, it is learned that, for the year ended June 30, 1903, 3,719 persons were killed, and 22,784 injured on the steam and street railways of Pennsylvania.

**Unusual Vaccination Location.**—A barber of Alliance is reported to have brought suit against Dr. F. W. Forbes for alleged malpractice, asserting that the latter applied vaccine to scratches which he had accidentally received on the face, and that the vaccine vesicle has appeared in this area.

**Union Meeting.**—A committee has been appointed by the county medical society to arrange for a meeting of the regular profession of the censorial district of the counties of Philadelphia, Delaware and Chester early in January. The meeting will be in the form of a reception to members of the county societies and invited guests.

**Officials and Nurses Exonerated.**—In the case of the death of a girl in the Pennsylvania Training School for Feeble-Minded Children, in which the father of the girl had made accusation of violent treatment as the cause of death, after thorough investigation of the case by the board of directors of the institution, they exonerate Superintendent Barr and the other officials and nurses from any blame in the case.

**Annual Meeting.**—The annual meeting of the Berks County Medical Society was held in Reading, December 8, when the following officers were elected: President, Dr. John F. Feick; vice-presidents, Drs. George Hetrick and James W. Keiser; recording secretary, Dr. Daniel Longaker; corresponding secretary, Dr. Hiester Bucher; treasurer, Dr. Irvin H. Hartman; reporter, Dr. William S. Bertolette; trustee, Dr. George W. Kehl; censors, Drs. Oan J. Thompson, Christopher H. Shearer and William E. Fisher; curator, D. S. Grimm, and librarian, Dr. S. Banks Taylor, all of Reading.

**Prosecution or Persecution.**—An interesting situation has arisen in connection with the prosecutions which have been carried on vigorously for some time by State Dairy and Food Commissioner Warren against dealers in impure articles. Judge Miller of Mercer County has refused to sentence those convicted in his court, holding that the action of the department is persecuting and lacking in equity. He holds that the dealers, not being expert chemists, should be warned, previous to arrest, and be given an opportunity to determine whether their goods are pure or adulterated. Dr. Warren proposes to make an effort to compel the judge to pass sentence in cases where conviction has been secured.

**Smallpox.**—An epidemic of "Cuban itch" is reported to exist among the school children of Essington. It is thought to have been brought by sailors to the port.——Smallpox has appeared among the inmates of the Lehigh County Poorhouse near Allentown. *Five inmates are reported to have the disease and* there are some suspects. The like institution of Blair County has to deal with the same disease. Two inmates have died and there are at least two other cases of the disease.——Smallpox has reached such proportions in Wayne County that Dr. Graff, a member of the State Board of Health, is said to have written letters of warning against the section to health authorities of surrounding regions.

**The Situation at Butler.**—At a special meeting of the Citizens' Permanent Relief Committee, December 30, it was decided to close the Philadelphia Hospital at Butler, January 15, as it is believed that the epidemic at Butler will have been controlled by that time. A committee composed of John H. Converse, Dr. French, and the mayor, is to prepare a testimonial to the nurses and physicians of this hospital, all having gone from Philadelphia, laudatory of their services.——The relief committee at Butler had received up to December 29 $45,000, and it was estimated that $35,000 would still be needed to relieve those in distress because of the typhoid fever epidemic. The ninetieth death from typhoid fever occurred January 3, and 3 new cases were reported on the same day.

### Philadelphia.

**A New "Pathy."**—J. B. Brown, a self-styled "cereopathic physician," has been committed to prison by Coroner Dugan. Brown had been treating a child, celery tea being a principal remedy. At the coroner's inquest on the death of the child, it appeared that Brown had no legal right to practice medicine.

**Want To Be Inspectors.**—On December 31 about 200 physicians took examination before the civil service board for the position of assistant medical inspector of the department of health. The corps of inspectors now numbers 13, but 45 additional inspectors were recently authorized. It was to fill the 37 additional positions that the examination was held.

**Scientific Societies Meet.**—On December 29, 30 and 31, the Association of American Anatomists, the Society of American Bacteriologists, and the American Physiological Society met in Philadelphia. Dr. Frederick G. Novy, Ann Arbor, Michigan, was elected president of the society of bacteriologists, and Prof. Charles S. Minot of Harvard University, president of the society of anatomists.

**Alleged Cruelty to Epileptic.**—Charged with cruelty to a patient in the insane department of the Philadelphia Hospital, two keepers, Richard Moore and Thomas McBlain, were held, December 26, by a magistrate, in $800 bail each for a further hearing. The victim is said to be an epileptic with homicidal mania, and is asserted to have received his injuries while being subdued into submission by his keepers, whom he had attacked.

**Lectures to Teachers.**—A part of the scheme by Director Martin for the inspection of public school children is that of lectures to the teachers so that they may better aid the inspectors in their work of detecting disease among pupils. Dr. Martin reports that he has asked the county medical society and the College of Physicians to co-operate in revising the list of infectious diseases which physicians must report to the board of health. Pneumonia, whooping cough, tuberculosis and measles will, perhaps, be added to the list.

**Smallpox and Typhoid Still Prevail.**—There is no abatement in the prevalence of smallpox and typhoid fever, as shown by the health report of the week ended January 2. There were 74 new cases of smallpox, with 11 deaths, and 150 new cases of typhoid fever, with 20 deaths. There were 83 new cases of diphtheria and 123 of scarlet fever. Pneumonia is prevalent, 95 deaths being ascribed to that cause. There was a high death-rate, deaths from all causes numbering 602, as compared with 554 for the previous week and 532 for the corresponding period of the previous year.

**Philanthropy.**—The will of the late Charles Hart, a lawyer, directs that the estate, valued at $56,000, be distributed, at the death of decedent's mother, to charitable institutions. Five thousand dollars each are bequeathed to the Children's Seashore Home for Invalid Children, at Atlantic City; the Children's Country Week Association; Sanitarium Association; Pennsylvania Training School for Feeble-Minded Children; Home for Incurables; Children's Hospital, and the Western Home for Poor Children.——The will of the late Hannah Adler, recently probated, bequeathes $2,000 to the Jewish Hospital for furthering the work of the Mathilde Adler-Loeb Dispensary.

**Parsimony Aids Disease.**—Dr. Seneca Egbert, professor of hygiene of the Medico-Chirurgical College, in a recent lecture before the Academy of Natural Sciences, stated that an urgent need in the schools and colleges is a comprehensive course in anatomy and hygiene and sanitation. One half of the population is under 24 years of age, and education of this portion in sanitary matters would have great weight in sanitary regulations. The great need of a city officer was pointed out, whose sole duty should be to go from school to school to look after the heating, ventilation, and general sanitary condition of the buildings. The parsimony of Pennsylvania, which appropriates only $6,000 a year for the care of the health of her citizens, results in the prevalence of smallpox and other contagious diseases.

**Dr. Woodhead's Lecture.**—On the evening of December 29 Dr. G. Sims Woodhead, professor of pathology of Cambridge University, England, under the auspices of the Phipps Institute of Tuberculosis, lectured on "The Paths of Infection in Tuberculosis and the Relations of the Tissues and Clinical Manifestations of the Disease." (See editorial in this issue.) A large number of stereopticon views were used to illustrate the subject. The lecture was a comprehensive, simple, direct presentation of the best knowledge on the subject. Many of Philadelphia's eminent physicians vied with one another to do Dr. Woodhead honor. The following acted as his hosts at various times for luncheon, dinner or reception: Drs. W. M. L. Coplin, John H. Musser, Charles H. Frazier, Charles F. Judson, M. P. Ravenel, and Horace Jayne

### GENERAL.

**Multiple Angiomata of the Spleen.**—Dr. William C. Pumpelly, pathologist to the pathological department of the Georgia State Sanitarium, Milledgeville, reports that in the necropsy on the body of a negro, female, who died from pulmonary tuberculosis, the spleen was found to be enlarged, and on section to contain a number of circumscribed hemorrhagic areas about 3 cm. in diameter and composed of blood vessels supported by a delicate connective framework not distinctly incapsulated but circumscribed and separate from the spleen structure. There were possibly twenty of these areas.

### CANADA.

Diphtheria is still very prevalent throughout the province of Ontario.

**La Grippe Prevalent in Toronto.**—A severe epidemic of la grippe exists in Toronto, and fifteen deaths a day were recorded in that city from pneumonia last week.

**Smallpox Prevalent in Cape Breton.**—The smallpox situation throughout the Island of Cape Breton is becoming very acute, and the local health authorities are strenuously endeavoring to check a general epidemic. In several districts the disease is rampant and fears are entertained that it may appear in Sydney.

**Personal.**—Dr. J. F. W. Ross, Toronto, is spending a two months' vacation in Egypt.——Dr. James Stewart, Montreal, has gone to Egypt to recuperate, after a long siege of blood poisoning.——Dr. W. F. Langrill, formerly medical health officer of Hamilton, Ont., has been appointed medical superintendent of the Hamilton General Hospital.

**Sanatorium By-Law Passes.**—The by-law to provide for raising $50,000 for a municipal consumption sanatorium in Toronto, was passed by the ratepayers at the annual municipal elections, January 1, by a vote of 4,071 to 3,822. All of the leading papers demanded its defeat in view of the good work performed by the National Sanitarium Association.

**McGill University Dental Course.**—The corporation of McGill University has decided to establish a dental department. The course will be four years of nine months each. The degree of master of dental surgery will be conferred at graduation, and not less than one year after graduation the degree of doctor in dental science may be conferred under certain conditions.

**New Laboratory for Queen's University.**—Queen's medical faculty has asked the Ontario government to establish in connection with that institution a branch laboratory of the Ontario Board of Health, for the examination of pathologic specimens. The government laboratory is now situated in Toronto, and it is claimed for eastern Ontario that it is too distant in securing prompt and effective results. It is likely that the government will grant the request.

**The Prevention of Tuberculosis.**—The Montreal League for the Prevention of Tuberculosis is issuing an appeal for funds to enable it to carry on the war against tuberculosis in that city. The league needs this money now for the purpose of establishing free consulting rooms, and intends as soon as possible to erect a sanatorium at Trembling Mountain, at which place the provincial government of Quebec has made it a grant of land for the purpose. The league is under the patronage of the governor general, Lord Minto, Lord Strathcona, Sir Louis Jette, and Sir William Macdonald. Senator Drummond is the president.

**Life Assurance Statistics.**—Dr. MacPhail of Montreal has been making observations as to the liability to earlier death of persons rejected by insurance companies, as compared with the liability of those accepted. In 5,115 applications, 409 were rejected; of these he traced 235, of whom during fifteen years only 31 died, while according to insurance actuarial figures, had the 235 been "sound lives," no less than 25 should have died in that period. Dr. MacPhail comes to the conclusion that those who are rejected by insurance companies, as a rule, manage to live about the usual average. The reason for this is that they take better care of themselves once they have been rejected.

### FOREIGN.

**German Anticharlatan Congress.**—The German Society for Combating Quackery has issued an appeal for a general congress to be held at Berlin January 14 and 15. Addresses on charlatans' practice and on the legal means of restricting it will be the chief features of the congress. The organization is in charge of Dr. Siefart, Charlottenburg, Hardenbergsstr. 39.

**Garre Goes to Vienna.**—Professor Garré of Königsberg has accepted a call to Vienna as successor to Gussenbauer. He is Swiss by birth and is now in his forty-eighth year, a pupil of von Brüns. He has occupied chairs at Tübingen, Rostock and Königsberg, and his name is well known from his numerous articles on almost all branches of surgery. He was at one time editor of the *Corr.-Blatt f. Schweizer Aerzte.*

**Drug Mistake at Bonn Gynecologic Clinic.**—A nurse administered to a patient at night two tablespoonfuls of a solution of zinc chlorid instead of the chloral which had been prescribed. Professor Fritsch writes to the *Deutsche med. Wochft.* that the patient vomited immediately, and milk and sodium bicarbonate were given at once and the stomach rinsed out. All danger was past in a few hours, and the patient well and free from pain. The only symptom left is a slight smarting when she swallows. He adds that the mistake was unpardonable and incomprehensible as the remedies for external use are kept in bottles with eight corners and fluted sides, while the internal ones are in smooth, round bottles and the two kinds are kept in separate places.

**The Prizes of the Paris Academie de Medecine.**—An unusually small number of the prizes were awarded this year. There was no competition for several and nothing of value was received for others. The Tremblay prize of $1,240 was bestowed on Albarran for his works on affections of the prostate, with honorable mention of others by Guiard and Petit. The Tarnier prize of $600 was given to Strohecker of Paris for a study of fibromata of the broad ligaments. J. Comby of Paris received the Roger prize of $500 for his series of works on children's diseases. The Vernois prize of $140 was divided between two laymen, P. Strauss and A. Fillassier, the former a senator and the other a lawyer, for their legislative work in matters affecting the public health, and F. Battesti of Bastia for studies on malaria. Other prizes were given to Arloing for his work on tuberculous ulcerations in the stomach, to Jousset for his method of diagnosing tuberculosis by "inoscopy." Also to G. Weiss for studies in medical electricity, to Bezançon and Griffon for bacteriologic studies on tuberculosis, to Philippe and Cestan for their studies on the mental troubles in sclerosis in patches, to Meige for his therapeutic study of tics, and G. Thibierge for a work on syphilis and deontology. The recipients were all French, with one or two exceptions, although competition is open to the world. Few if any contributions were received from outsiders. The communications above mentioned on which prizes were bestowed have all been reviewed in The Journal during the last year or two. The Académie has about fifty endowed prizes to bestow annually as has been described from year to year in these columns. Full details of the competition were given in The Journal of January 24, 1903. The Labordie prize of $1,000 for "notable advance in surgery," was not awarded this year.

**The Recipients of the Nobel Prizes:** *Finsen.*—Nyls Ryberg Finsen was born in 1860 on one of the Faröe islands, between Scotland and Iceland, and was educated at Reykjavik, Iceland, and later at Copenhagen. After obtaining his medical degree he was for some years prosector at the Copenhagen medical school, and commenced his studies on the influence of light on biologic processes at this time. His light institute was founded in 1896, but he is now unable to direct it personally, as he is confined to his room by a severe chronic affection. The International Medical Congress at Paris in 1900 was the first introduction of his methods of phototherapy to the profession at large. He has divided the sum received in the prize between his Light Institute and a hospital at Copenhagen. *The Curies and Becquerel.*—Professor Pierre Curie has occupied the chair of chemistry at the Paris Municipal School of Applied Physics and Chemistry since 1895, and has also had a chair at the Sorbonne since 1900. His wife, a Pole by birth, is now 35 years old, and took a degree as bachelor of sciences at Paris some years ago. She lectures at the normal school at Sèvres. The discovery of radium by this couple was preceded by the discovery by H. Becquerel of the light-emitting properties of uranium, and the Nobel prize for physics was divided between the three, all residents of Paris. *Arrhenius.*—The prize in chemistry was awarded to Arrhenius, a Swede, whose textbook on electro-chemistry is not only one of the most recent but also one of the most authoritative on the subject. His chief claim to distinction is his theory in regard to ions, which he advanced to explain the dissociation of substances by electricity. *Nationality of the Recipients.*—These prizes during the three years since they have been awarded have been distributed among nineteen persons. Although Nobel himself was a Scandinavian, not until this year has a prize been given to any of this race, but now Denmark, Sweden and Norway are simultaneously complimented. To date, 4 Germans, 5 Frenchmen, 3 Dutchmen and 2 Englishmen, 1 Russian and 1 Swiss have been the recipients of the five prizes for medicine, physics, chemistry, literature and promotion of peace. Those in charge of the awards seem to rank research and discovery above invention. The physics prize the first year was given to Röntgen, and last year to Lorentz and Zeemann of Holland, who first announced that optic phenomena could be influenced by magnetic action. Fischer was the recipient of the chemistry prize for his work on the synthesis of sugars, although it was far from recent.

### LONDON LETTER.

#### The Commission on Arsenical Poisoning.

The Royal Commission on Arsenical Poisoning, which was appointed in 1901, after the epidemic of arsenical poisoning due to contaminated beer, has at last issued a final report. Not only the question of contaminated beer but the whole subject of the contamination of food by arsenic was the subject of inquiry. It may be remembered that the epidemic in question was due to the use of brewing sugar (supplied by a single firm) which had become contaminated with the arsenic present in the sulphuric acid used in the conversion of starch into the sugar. The consequent inquiry led to several interesting discoveries. Another source of arsenical contamination was found: Malt is liable to contamination by arsenic volatilized from the coke used in the kiln. The commission have no doubt that arsenical poisoning from this source has occurred, and they describe a small outbreak of this nature which occurred last year at Halifax and was traced to arsenical coke. Reasons are given for the belief that such outbreaks were not uncommon in parts of the country where brewers habitually used malt dried over gas coke, but their true nature was not recognized until Dr. E. S. Reynolds showed the cause of the 1900 epidemic. It is not surprising that arsenic was not previously suspected because the quantity which by constant repetition has been found capable of producing illness is small, and the symptoms differ widely from those of acute poisoning. Beside beer, other articles of food may contain arsenic in the absence of proper precautions. Glucose is an ingredient of several foods in everyday use, and sulphuric acid is used in preparing a variety of food substances, such as table syrups, treacle and some kinds of vinegar. The report also draws attention to the frequent presence of large amounts of arsenic in glycerin, which is a common ingredient in cakes as well as in several mineral and coal-tar coloring substances used in the preparation of foods. The commissioners refuse to regard as negligible any quantity of arsenic in food, however small, as by due care it may be totally excluded. But for practical purposes, in view of the great delicacy of the available tests, they declare that the quantity present should not exceed 1/100 gr. of arsenic per pound, or in the case of fluids 1/100 gr. per gallon.

#### The London School of Tropical Medicine.

At the London School of Tropical Medicine Sir Patrick Manson delivered a most interesting address on the achievements and requirements of the school. He said that since it was opened on Oct. 3, 1899, over 300 students had passed through its portals. In the earlier days of the school's existance many of the students came for one or two months only. Now a large proportion of the students remained during the full course of three months. When they left the majority had a genuine practical grip of their subject. They had seen, and most of them had applied for themselves, the most recent methods of diagnosis, and as far as teaching and opportunity could insure they were qualified for medical work in the tropics —qualified both to practice their profession and to advance the science of tropical medicine. Where two or three men took a languid interest in tropical diseases some five or six years ago, a whole army of eager investigators had arisen, mainly composed of men educated or inspired by the London and Liverpool schools of tropical medicine. This multiplication of investigators had already borne remarkable fruit. Without alluding to what had been done in Liverpool he pointed out not a few notable triumphs by men from the London school. He instanced Dr. G. C. Low's work in connection with the etiology of elephantiasis; the practical experiment of Dr. L. Sambon and Dr. Low as to the spread of malaria by mosquitoes; the discovery in the Gambia colony of a new blood parasite, which was subsequently recognized as a trypanosoma by Dr. J. E. Dutton of the Liverpool School of Tropical Medicine, and the demonstration by Dr. A. Castellani, of the association of this parasite with sleeping sickness. Referring to beri-beri he did not despair of getting light on this disease. Dr. C. W. Daniels, the late superintendent of the school, had been placed in charge of the research laboratory at Kurla Lumpur in the Malay States.

### Ankylostomiasis in Miners.

In connection with the Liverpool School of Tropical Medicine, on Friday, Mr. Charles Salter delivered a lecture in the Thompson Yates laboratory of Liverpool University on "Ankylostomiasis in Miners." He spoke of his investigations in Westphalia and Belgium and of the measures adopted to eradicate the disease. If a miner, after leaving work neglected to wash his hands before eating, the disease could easily be conveyed, if the dirt on the hands contained larvæ. Expert opinion was divided as to whether the disease could enter through the skin. In his investigation the lecturer could not learn of any instance of workers above ground contracting the malady, except through contact with contaminated miners' clothing. In one instance a boy got the disease through cleaning his father's pit shoes, and in another case a woman was affected by washing her husband's mining clothes. Dampness in mines, and want of sanitary precautions, were among the prime causes of the disease. Disinfectants were costly and useless in preventing the spread of the disease in mines. Proper and adequate sanitary conveniences, strict systematic medical examination, and cleanly habits among the men were requisite. Such precautions had been adopted in Germany and other places with marked beneficial results.

## Correspondence.

### Circulating Reprints Without Authority.

CHICAGO, Jan. 5, 1904.

*To the Editor:*—About a year ago I began a series of observations on the therapeutic effects of a new remedy that from analogy I believed would be a valuable sedative, especially for the relief of cough. I presented the unbiased results of these observations to the Illinois State Medical Society last May and the paper was published in the *Illinois State Medical Journal* with no title following my name except M.D. Reprints were made of the article and mailed to many physicians in the state. Subsequently a reprint of this article was republished by the manufacturers of the product without my knowledge or consent, and several titles were placed after my name on the cover page. I knew nothing of this until recently when I received a copy of the reprint with a protest from some physician whose name was not given to me. The titles were only such as may be found after the names of many physicians, yet I think the protest was fully justifiable, for I believe it in exceedingly poor taste to parade one's titles even before the profession, a thing which I am not in the habit of doing. I will deem it a favor if physicians will send me any copies of this reprint they may receive hereafter.

E. FLETCHER INGALS.

## Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

### POSSIBILITY OF VACCINIA AFTER SMALLPOX.

SAGINAW, Dec. 29, 1903.

*To the Editor:*—1. Is it possible for vaccine to work on a person who has recently had smallpox? 2. If so, what would you say as to probabilities following a case in the last three or four years?

P. S. WINDHAM, M.D.

ANSWER.—1. Yes, but very improbable. 2. Very improbable, but less so than after recent smallpox. It should be remembered that some other disease may be mistakenly called smallpox and that a pus lesion may be mistaken for vaccinia.

### BLOOD AGGLUTINATION.

PHOENIX, ARIZ., Dec. 26, 1903.

*To the Editor:*—Please inform me through THE JOURNAL how one can determine the agglutinating power of the human blood and its increase and decrease; also what works, if any, there are on this subject.

JOHN W. FOSS, M.D.

ANSWER.—Agglutination experiments or tests are made by mixing variable quantities of blood serum with the agglutinable objects, e. g., blood corpuscles, bacteria, and then observing the absence or development of definite clumps and masses either under the microscope or in small test tubes. The power of agglutination is generally determined roughly by finding the highest dilution at which the serum causes distinct agglutination. But there is no fixed standard of agglutinating power; it is, in all cases, normal as well as pathologic, subject to variations within wide limits. Assuming that you are especially interested in the agglutination of bacteria by human serum under various conditions, agglutinations that serve as diagnostic helps, we refer you in the first place to such works on the blood as Cabot's, Ewing's, etc., and to the annual reviews of current literature (Progressive Medicine, etc.). So far as we know there are no special books on this aspect of agglutination alone. Numerous articles have appeared in American journals on various aspects of agglutination in various diseases, especially the practical significance of its presence or absence. As an example may be mentioned L. M. Loeb on "The Serum Diagnosis of Tuberculosis," in THE JOURNAL, May 23, 1903.

## Marriages.

L. G. STEWART, M.D., to Miss May Tondee, both of Ellaville, Ga., December 23.

FRANK ANTHONY, M.D., Sterling Ill., to Mrs. Allie Sneed of Dixon, Ill., December 26.

LUCIEN STARK, M.D., to Miss Marjorie Guilfoil, both of Hyannis, Neb., December 23.

P. MAXWELL FOSHAY, M.D., to Mrs. Emily Morgan Grim, both of Cleveland, Ohio, January 6.

J. FOSTER MCNARY, M.D., to Miss Mildred Anderson, both of Milwaukee, Wis., December 24.

ALBERT W. CLARK, M.D., to Miss Harriet G. Doran, both of Punxsutawney, Pa., December 9.

R. F. HILLIARD, M.D., Urbana, Va., to Miss Stella Evans of Essex County, Va., December 29.

HARRY A. COSLER, M.D., North Hampton, Ohio, to Miss Emma Myers of Dealton, Ohio, December 29.

HENRY B. A. KUGELER, M.D., San Francisco, to Miss Louise M. Coors of Golden, Colo., December 26.

FRANK P. STAFFORD, M.D., New Carlisle, Ohio, to Miss Alberta Dresback of Sidney, Ohio, December 23.

WILLIAM C. WEST, M.D., Kansas City, Mo., to Miss Estella Bottoms of Westport, Mo., December 16.

MONTGOMERY HUNT SICARD, M.D., to Miss Adelia Avenia Ireland, both of New York City, December 22.

ALFRED LEFTWICH GRAY, M.D., Richmond, Va., to Miss Alice Lear Clark, at Charlottesville, Va., December 23.

IRA E. SEWARD, M.D., Springfield, Ohio, to Miss Laura J. Foreman of Newark, Ohio, at Columbus, December 23.

F. LOMBARD WOODWARD, M.D., Glen Echo, Md., to Miss Maude L. Burnette of Washington, D. C., December 19.

CHARLES LYBRAND BONIFIELD, M.D., Cincinnati, to Miss Grace B. Finney of Northern Ohio, at Cincinnati, December 23.

## Deaths.

**Edgar L. Carr**, M.D. Medical School of Maine, Brunswick, 1864, assistant surgeon in the Thirty-fifth Massachusetts Volunteer Infantry, died at his home in Pittsfield, N. H., December 22, as the result of injuries received in a railway accident eight days before, aged 62.

**Charles Merrill Clark**, M.D. New York University, 1857, surgeon in the Army during the Civil War, at the close of which he was chief medical officer of the district of southeastern Virginia, died at his home in Chicago, December 28, aged 69.

**William H. Bryant, M.D.** Kentucky School of Medicine, Louisville, 1853, a pioneer physician of Savannah, Mo., and for many years a member of the state examining board, died at his home, December 24, after a prolonged illness, aged 71.

**John M. Otto, M.D.** New York University, 1889, of New York City, died at the New York Hospital, December 29, from the result of injuries received in a fall the night before, in which he sustained a fracture of the skull, aged 52.

**Ambrose L. Robinson, M.D.** Cleveland Homeopathic Medical College, 1895, of Wellsville, Ohio, died at New Castle, Pa., December 25, from injuries sustained by falling from a street car in Wellsville ten days before, aged 38.

**Daniel Embury Kissam, M.D.** for forty years a physician of Brooklyn, who retired from practice in 1888, died at his home at Huntington Harbor, Long Island, December 23, aged 86. He served as surgeon in the Civil War.

**Charles S. Owen, M.D.** Chicago Homeopathic College, 1883, of Wheaton, Ill., died at the Chicago Homeopathic Hospital, January 2, from injuries sustained in the fire at the Iroquois Theater, December 30.

**Turner P. Oliver, M.D.** Medical College of the State of South Carolina, Charleston, 1851, who had practiced for more than half a century in Oglethorpe, Ga., died at Marshall, Texas, December 24, aged 84.

**Wilbur F. Harding, M.D.** Hahnemann Medical College, Philadelphia, 1857, of Westfield, Mass., died in Northampton, Mass., from fatty degeneration of the heart, December 24, after a short illness, aged 73.

**Frances Emily White, M.D.** Woman's Medical College of Pennsylvania, Philadelphia, 1872, *professor of physiology and* hygiene in that institution, died at Jamaica Plain, Mass., December 29.

**S. Foster Quimby, M.D.** Harvard University Medical School, Boston, 1864, died from cerebral hemorrhage at his home in Salem, Mass., December 23, after an illness of four days, aged 63.

**John W. Van Zandt, M.D.** College of Physicians and Surgeons of New York, 1851, died at his home in Clarkston, Wash., December 23, from paralysis, after an illness of five days, aged 73.

**Alfred J. Kurtz, M.D.** Hahnemann Medical College, Philadelphia, 1893, died at his home in Philadelphia, December 25, from injuries sustained in being run over a few days before, aged 39.

**William J. Weeks, M.D.** Harvard University Medical School, Boston, 1897, died at his home in Malden, Mass., December 23, from scarlet fever, after an illness of four days, aged 40.

**J. Fenton Underwood, M.D.** University of Vermont, Burlington, 1896, died at his home in Penn Yan, N. Y., December 20, from pneumonia, after a short illness, aged 49.

**William Kenney, M.D.,** said to be the oldest physician in Bourbon County, Ky., died at his home in Paris, December 28, after a long illness, from paralysis, aged 85.

**Joseph P. Cain, M.D.** Medical College of the State of South Carolina, Charleston, 1859, of Pinopolis, S. C., died from pneumonia, December 16, in Charleston, S. C.

**Caleb L. Sample, M.D.** Pennsylvania, 1856, a surgeon in the Confederate service, died suddenly at his home in Stillmore, Ga., December 23, from heart disease.

**Stephen H. Duley, M.D.** Bennett College of Eclectic Medicine and Surgery, Chicago, 1878, died in Morris, Minn., December 19, from cirrhosis of the liver, aged 75.

**William B. Shuttleworth, M.D.** Jefferson Medical College, Philadelphia, 1887, of Martin's Ferry, Ohio, died at Denver, from tuberculosis, December 18.

**Richard F. Scruggs, M.D.** Jefferson Medical College, Philadelphia, 1859, died at his home in Sweetwater, Tenn., December 28, from pneumonia, aged 70.

**Robert S. Reagan, M.D.** Jefferson Medical College, Philadelphia, 1880, died at his home in Broad Ford, Pa., December 13, from typhoid fever, aged 52.

**T. Erskine Todd, M.D.** Jefferson Medical College, Philadelphia, 1876, died suddenly from heart disease at his home in Laurens, S. C., December 25, aged 49.

**Edward M. Hardcastle, M.D.** Jefferson Medical College, Philadelphia, 1844, died at his home in Easton, Md., December 27. from pneumonia, aged 84.

**Samuel Pickering, M.D.** Hospital College of Medicine, Louisville, 1879, died at his home in New Castle, Ind., December 21, from paralysis, aged 55.

**Jacob De Hart, M.D.** Medical College of Ohio, Cincinnati, 1876, died at his home in Williamsport, Ind., December 24, after a long illness, aged 58.

**Henry Koch, M.D.** University of Heidelberg, Germany, 1874, of Rochester, N. Y., died in the City Hospital in that city, December 13, aged 57.

**John Gregory Wellington, M.D.** Harvard, but never a practitioner of medicine, died at his home in Middlebury, Vt., December 18, aged 86.

**Elias H. Frantz, M.D.** Jefferson Medical College, Philadelphia, 1873, died at his home in Reading, Pa., after a prolonged illness, December 26, aged 56.

**Edwin Andrew Millring, M.D.** Niagara University, Buffalo, 1890, died from peritonitis at his home in Stockton, N. Y., December 19, aged 34.

**Hugh M. Wallis, M.D.** Jefferson Medical College, Philadelphia, 1860, died at his home in Houma, near Covington, La., December 26, aged 67.

**George F. Bradbury, M.D.** University of California, San Francisco, 1878, died at his home in Modesto, Cal., December 22, from angina pectoris.

**Daniel E. Thomas, M.D.** University of Michigan, Ann Arbor, 1858, died at his home in Constantine, Mich., December 18, from pneumonia, aged 74.

**Nathaniel P. Hackett, M.D.** Vanderbilt University, Nashville, Tenn., 1887, died at his home in Sherman, Texas, December 21, from pneumonia.

**Horatio Dallas Holmes, M.D.** of Scircleville, Ind., died at Indianapolis, December 29, from arteriosclerosis, after a long illness, aged 57.

**Robert Boocock, M.D.** New York Homeopathic Medical College and Hospital, 1891, died at his home in Brooklyn, N. Y., December 28, aged 70.

**W. J. Scott, M.D.,** of Dalby, Northampton County, Va., was found dead in his carriage near Seaview, Va., December 24, aged about 70.

**Frank Lunbeck, M.D.** College of Physicians and Surgeons of Chicago, 1884, died recently at his home in Kingston, Ohio, from heart disease.

**Augustus D. Ruggles, M.D.** University of Pennsylvania, Philadelphia, 1865, died at his home in New York City, December 27, aged 63.

**Clifford Doyle Boal, M.D.** Western Pennsylvania Medical College, Pittsburg, 1901, died at his home in Baden, Pa., December 20, aged 24.

**William L. Banfield, M.D.** University of Tennessee, Nashville, 1900, died recently at his home in Olive Hill, Rowan County, Ky.

**Horace Clifton Taylor, M.D.** Eclectic Medical Institute, Cincinnati, 1849, died at his home in Brocton, N. Y., December 21, aged 90.

**Adin P. Waid, M.D.** University of Buffalo, 1874, died at his home in Buffalo, N. Y., December 21, from cerebral hemorrhage, aged 70.

**Isaac N. Gibson, M.D.,** *the oldest physician in* Tuscarawas County, died at his home in Uhrichsville, Ohio, December 18, aged 78.

**William D. Branyon, M.D.** Barnes Medical College, St. Louis, 1899, was shot and instantly killed at Prairie Lea. December 18.

**Owen C. Brown, M.D.** University of Toronto, 1874, died at his home in Detroit, Mich., December 29, after a long illness. aged 50.

**George O. Fraser, M.D.** Cleveland Medical College, 1876, died from endocarditis, December 26, at his home in Cleveland, aged 63.

**Isaiah B. Wilson, M.D.** Medical College of Ohio, Cincinnati, 1877, died at his home in Dayton, Ohio, December 28, aged 58.

**J. C. Adams, M.D.** Medical College of Ohio, Cincinnati, 1873, died at his home in Gridley, Ill., December 28, from paralysis.

**William H. Webb, M.D.** Jefferson Medical College, Philadelphia, 1866, died at his home in Philadelphia, December 22.

**W. P. Andrews, M.D.,** Atlanta and Philadelphia, died at his home in Shelby, N. C., after a short illness, aged 80.

**W. B. Scarbrough, M.D.** Memphis, died at his home in Huntington, Texas, December 14, from pneumonia.

**William Coulson Hyde, M.D.,** died at his home in Detroit, Mich., December 28, from apoplexy, aged 74.

**W. D. Bullington, M.D.** Baltimore, 1903, died at Rincon, N. M., after a long illness, December 25, aged 26.

**Wellington E. Kneeland, M.D.**, died at his home in Lawrence, Mass., December 14, from typhoid fever.

**Gabriel M. Gunn, M.D.**, died at his home in Versailles, Mo., December 19, from pneumonia, aged 50.

**William E. Jones, M.D.**, formerly of Cumberland, Md., died at Evansville, Ind., December 26.

**Henry Bronson, M.D.** University of Vermont, Burlington, 1887, of Chicago, died recently.

**Francis W. Keyes, M.D.**, died at his home in Wilawana, Pa., December 15, aged 69.

**Minor Guinn, M.D.**, died at his home in Blacksburg, S. C., December 9.

### Deaths Abroad.

**A. Maffucci, M.D.**, professor of pathologic anatomy at Pisa, died November 25. His researches on pathologic histology and on the physiology of the serous membranes have been valuable. He also first established that the tuberculosis germ can settle in the embryo without inducing any apparent manifestations, and yet develop later in the animal.

**T. von Schroeder, M.D.**, director of the Ophthalmic Institute at St. Petersburg, and for several years editor of the *St. Petersburger Med. Woch.*, died November 18, aged 50. The above journal publishes a list of his 22 most important scientific works, most of them appearing in German periodicals as well as in the Russian.

**A. T. Almen, M.D.**, chief of the official medical service in Sweden, died at Stockholm in November, aged 71. The improvement realized in late years in hospital management throughout the country was essentially his work.

**G. Lowenbach, M.D.**, assistant at the syphilis clinic at Vienna and a frequent contributor to the medical press, was killed by an avalanche in Switzerland, in November, at the early age of 31.

**C. Philippe, M.D.**, chief of the laboratory at the Paris Faculty of Medicine, and author of several works on the histology of the nervous system, died in Paris, December 2, aged 38.

**G. De Luca, M.D.**, editor of the *Revista Clinica e Terapeutica*, privat docent of medical pathology at Naples, died November 20.

## Book Notices.

Postmortem Pathology. A Manual of Postmortem Examinations and the Interpretations to Be Drawn Therefrom. A Practical Treatise for Students and Practitioners. By Henry W. Cattell, A.M., M.D., Pathologist to the Philadelphia Hospital. With 162 Illustrations. Cloth. Pp. 372. Price, $3.00. Philadelphia and London. J. B. Lippincott Co. 1903.

This is a unique book. Its title is altogether too modest, for in its 372 pages we are also given elaborate enumerations of etiologic factors, discussion of treatment of wounds sustained in autopsies, directions for autopsies on animals, medicolegal suggestions including the Prussian regulations for the performance of autopsies in medicolegal cases, and finally a chapter entitled: "Usual causes of death; their nomenclature, complications and synonyms." The book is well and profusely illustrated and contains much useful information. The directions for postmortem technic are clear and complete. Unfortunately, this can not be said of the discussions of the pathologic findings. Classifications and tabulations are everywhere indulged in, but they are often confusing and misleading. Unessentials are frequently dwelt on at length, while essentials are barely mentioned or altogether omitted. For instance, infarcts of the kidney are classified as follows (p. 146): (a) calcareous, (b) uric acid, (c) hemoglobin, (d) bilirubin, (e) caused by salts of silver. No mention is made of the common infarcts. The only tumors of the urinary bladder named are cavernous angiomata, dermoid and echinococcic cysts. The others are dismissed with the statement that a considerable variety of tumors exists. Of the causes of acute general peritonitis exposure to cold and wet is given the first place (p. 112). The following classification of cirrhosis of the liver is given: (a) alcoholic, (b) fatty, (c) hypertrophic, (d) capsular, (e) syphilitic, (f) cyanotic, (g) malarial, (h) scarlatinal, (i) tuberculous, (j) rhachitic, (k) anthracotic. This mix-up of etiologic and anatomic factors is noticeable throughout the book. The author leaves us to guess what rôle he means "micro-organisms" to play in various diseases when he merely enumerates the word along with other factors. For instance, chronic bronchitis (p. 98): (a) certain occupations, (b) old age, (c) saprophytic and other organisms, (d) repeated attacks of acute bronchitis. The splenic form of leukemia is called splenic anemia (p. 80). The directions for securing material for bacteriologic examination at autopsies are unsatisfactory. The author does not tell us that it is possible to keep fluids in sterile pipettes and pieces of the organs in sterile test tubes or dishes until one can inoculate media at one's leisure after the autopsy. He describes under separate headings "acute cerebrospinal meningitis" due to the *Diplococcus intracellularis*, and "acute cerebrospinal leptomeningitis." Among the organisms found in the latter the "*Meningococcus*" is mentioned first. On the whole, it seems to us that the book would have been more useful if it had been confined to postmortem technic, gross pathology, and medicolegal suggestions. To scatter a syllabus of general medicine into such a work only creates confusion.

A Text-Book of Clinical Anatomy. For Students and Practitioners. By Daniel N. Eisendrath, A.B., M.D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons). Beautifully Illustrated with 153 Illustrations, a Number in Colors. Cloth. Pp. 515. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The term "Clinical Anatomy" is used to mean "anatomic knowledge as applied to every branch of clinical work," or the study of anatomy from the living subject rather than in the dissecting room. The chief feature of this work which distinguishes it from the ordinary is an attempt to outline in black on the surface of the living body the supposed location of the various organs, structures, tissues, etc., and then the photographing of the subject. As a result erroneous ideas are often conveyed. For instance, Figure 16 shows the region occupied by the parotid gland as decidedly too small, and the direction of the spinal accessory nerve as too transverse. Figure 32 shows the carotids as diverging, which is not correct, and they appear to become superficial, directly under the skin, while they are deeply situated. The division of the innominate is shown much too high, as is also the lower border of the pleura. While there are slight variations in the normal location of the kidney, Figure 42 can not be considered to represent the average normal relation of right kidney, lower edge of pleura and twelfth rib. Many of the illustrations can be looked on as simply diagrammatic and only roughly representing conditions present. There is altogether too much duplication of illustrations. For instance, Figure 21 has been introduced four times, Figure 52 three times, Figure 48 three times, while many others have been introduced twice. As the lettering and description is identical in each case there does not appear to be any good reason for so much duplication. Occasionally the text does not agree with the illustrations; for instance, on page 207 it is stated that "the lowest point of the kidney reaches down to a line drawn between the lower borders of the curves of the tenth costal cartilages." This does not agree with Figure 42. These criticisms are made with the best of motives; a book such as this should be absolutely correct and reliable; if it is not, those who expect to rely on it should be informed. The general idea and the plan of the book are most excellent, and the work will be of great value to operators who are not sure of their anatomy. The illustrations, as a rule, are excellent and reliable, and some of them, particularly those taken from actual dissections, are very good.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals, etc. Fourth Edition, Revised and Enlarged, with 746 Illustrations, 39 of Them in Colors. Pp 899. Philadelphia, New York, London: W. B Saunders & Co. 1903.

The previous editions of Hirst's book have received adequate review; the present volume, the fourth within five years, has many additions to the text, and the illustrations have been considerably increased, which materially enhance its value. Two topics which largely have been carried from the first edition, however, are not above question. In view of the recent advances in the operative dilatation of the parturient os, and the behests of Denman and others a century ago that the os must be completely dilated before forceps may be applied, it seems unwise to recommend that forceps be applied through a partially dilated os, and to overcome the resistance of a cicatrized contraction of the cervix by traction. Likewise, the advice to perform version, then rapid extraction, through the partially dilated, rigid os, generally will mean a dead baby, and extensive, dangerous lacerations into the parametrium: it is a teaching which can not be too strongly deprecated. Under the caption of "Puerperal Sepsis" one may well be surprised to find an absence of detailed description of saprophytic or putrid infection; the mere incidental reference is not commensurate to the importance of the subject—the diagnosis, prognosis, and treatment differ so materially from the coccic infections that the omission is a grave one. We can not countenance the mandate that when in doubt all thermal disturbances in the puerperium should be considered puerperal infection and treated accordingly. Further, the growing conviction of obstetricians is against the routine curettage and repeated intrauterine douching. It seems unfair to ignore these recent teachings, and to recommend unqualifiedly these two procedures is running counter to the accumulating evidence that an expectant policy often gives best results, and sometimes active interference directly jeopardizes the patient. This expectancy is especially indicated when doubt as to the true nature of the malady is present. In spite of these criticisms, however, Hirst's text-book deserves the success it has had as a working guide for the student. The publishers' work has been done as beautifully as before.

The Worth of Words. By Dr. Ralcy Husted Bell. With an Introduction by Dr. William Colby Cooper. Third Edition, Revised and Enlarged. Cloth. Pp. 307. Price, $1.25. New York: Hinds & Noble.

This book is made entertaining by the author's pointed and humorous style and by his frequent use of pertinent anecdote. We agree with a certain reviewer of the book who regretted the title given it, because he feared that it would keep the book away from a great many persons who ought to read it, and from many more who would delight in it. But to recommend Dr. Bell as an authority is another matter. It is a delicate undertaking to sit in judgment on the constantly changing English language, of which some one has well said that it is hard to tell which is the rule and which the exception. Dr. Bell says he is not dogmatic; we fear some would so describe him. At least, he is partial and inconsistent in some particulars, for example: he condemns telegram, but admits telegraph; while he approves epigram, epigraph, monogram and monograph. He condemns photographer and gives his reason—its being made from two languages—but he says "geographer and biographer are exceptions firmly fixed in the language." We think photographer is as firmly fixed. He says bread-knife is a good word, being an abbreviation for "knife for bread," but he says cook-stove is vulgar. Is this not an abbreviation for "the stove of the cook," and is not Dr. Bell's criticism a case of the pot calling the kettle black? It is noticeable that the author himself occasionally slips into what we would call unjustifiable slang, as when he speaks of a rather innocent nickname (sky pilot) as fitting its subject "so ghastly well." Another matter for criticism is that when he is noticing his own critics his hatred of cacology, like Dowie's piety, does not prevent him from using expressions that are hardly permissible in polite usage. In spite of these, however, the book will certainly interest its readers.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-patient Medical Department of the Jefferson Medical College Hospital. Volume III. September, 1903. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood Vessels; Dermatology and Syphilis; Diseases of the Nervous System; Obstetrics. Cloth. Pp. 398. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1903.

This work, which is properly a serial, is a summary of the advance in certain lines of medical science. The subjects here discussed are diseases of the thorax and its viscera, including the heart and lungs, of which the recent literature is very adequately epitomized by Dr. William Ewart; dermatology and syphilis by William S. Gottheil; diseases of the nervous system by Dr. William G. Spiller and obstetrics by Dr. Richard C. Norris. In all four departments the book will be found well up to date and contains a well-digested summary of the principal contributions to the recent literature. We can say nothing but good of this series which Dr. Hare has so ably edited during the past few years.

Surgical Diseases of the Abdomen, with Special Reference to Diagnosis. By Richard Douglas, M.D., Formerly Professor of Gynecology and Abdominal Surgery, Medical Department Vanderbilt University. Illustrated by 20 Full-page Plates. Cloth. Pp 883. Price, $7.00. Philadelphia: P. Blakiston's Son & Co. 1903.

This work of nearly 900 pages treats of practically all the diseases and injuries of the abdomen which are likely to come under the care of the surgeon, or to require surgical treatment. As is to be expected from the title, questions relating to diagnosis are most extensively elaborated, but the other phases of the subjects have not been neglected. Treatment is the least touched on of all. Under this heading only generalities are given, and no attempt has been made to enter into the details of operative procedures or methods of treatment. This is a disappointment, for had the author extended his earnest and conscientious style so as to include this phase, it would have enhanced the value of an already excellent work. The views expressed are clearly those of a modern and aggressive man, and there is little to criticise in this regard. There is some tendency to repetition, and condensation at times would improve the text. The illustrations, only 20 in number, could be materially increased with advantage. The work, as a whole, however, is excellent, and one which should be consulted by the physician as well as the surgeon.

Nose and Throat Work for the General Practitioner. By George L. Richards, M.D., Fellow American Laryngological, Rhinological and Otological Society. Cloth. Pp. 330. Price, $2.00. Published by International Journal of Surgery Company, N. Y.

This is one of the smaller text-books which makes no pretense to being complete, but aims to meet the needs of the general practitioner. For such it will prove useful and practical.

## Miscellany.

**A Libel Exposed.**—The following item has been going the rounds of the newspapers, in a few instances commented on editorially against the profession of course:

### MUST FIRST SEE A FEE.

DOCTORS WHO WON'T SERVE UNLESS PAID IN ADVANCE.

Indianapolis, Dec. 22.—The long-heralded trust of physicians formed in Anderson has finally been demonstrated to be a fact. As a result of its operations the infant child of Mr. and Mrs. Albert Graham will die of burns received three days ago.

The Graham family is poor, and when the child was injured Mrs. Graham was forced to admit to the physicians she attempted to summon that she could not pay the fee for services until later. The agonized mother called on sixteen different doctors in vain, all refusing to attend the child until paid in advance.

The trust is said to have been formed several weeks ago. All the prominent doctors of the city are alleged to be members, binding themselves to treat no patient who owes for former professional services, and at the same time agreeing to attend no patient whose financial standing is not assured until the fee is paid in advance.

Knowing that there was little, if any, truth in the above, we wrote to Dr. O. E. McWilliams, Anderson, Ind., secretary of the Madison County Medical Society, asking him to give us the facts in the case. The following is his reply:

Anderson, Ind., Dec. 26, 1903.

*To the Editor:*—In replying to yours of the 24 inst., I have to say that I called on the Mrs. Graham to-day, and this is her statement:

That on Dec. 16, 1903, her child received a burn and she immediately called a physician by telephone; the first physician she called was not at home, the second was busy in his office and could not leave at once. She thought after calling these two she would go back home and see how bad the child was, as she was scared at first and she thought, perhaps, it was not as bad as she first thought it. When she arrived at home she saw the burn was not bad and said she would dress it herself, which she did. On the following morning, December 17, she thought she would be better satisfied if a physician should see the burn and she called a physician, who answered the call at once. Not having been informed as to the nature of the case, he had nothing with him to dress a burn, and advised the mother to call the township trustee and have him send a physician, which the mother did and the township trustee furnished a physician at once. The burn covered an area of two by six inches on the arm and the skin was not destroyed across the middle of the burn. It was a superficial burn of no consequence, nor did the mother think it of any consequence, but thought she would be better satisfied to have a physician see it. The mother said the physicians called said nothing to her about the pay for the calls, neither did she say anything about the money part of the transaction, nor does she suspect or have the least information of the notoriety she has had.

For the medical profession of Anderson, I can say that I think we have as honorable physicians as can be found any place, and I think they are all upright, honest gentlemen. I wish I could say as much of the newspapers here. They are always trying to manufacture sensational articles, and mostly out of nothing, as in this case. O. E. McWilliams.

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**Prophylaxis of Color Blindness.**—Dr. R. Roselli has examined 100 children in respect to their color-sense. He found that it was more developed the more intelligent the children, and was most acute in girls. In a large proportion, however, it was defective; the children were unable to distinguish between various colors, but by exercises and training them to discriminate he found that all soon acquired normal color sense. He deduces the conclusion that non-acquired color blindness in the adult is due to the lack of exercise in distinguishing between colors in early life. The nerve fibrils for perception of colors become atrophied from disuse, and this in time entails an optic impotency for colors.—*Annali di Ottalmologia*, xxxii, 7-8, 1903.

**Collargol Injected Per Rectum.**—Schlesinger of Vienna proclaims that his experience has established that collargol is as effective injected by the rectum as when the intravenous route is followed. In certain cases the latter is impracticable, owing to the small size of the veins or the obesity of the patient. He found that the course of severe sepsis changed decidedly for the better in 3 cases under the influence of rectal injection of .15 to .3 gm. collargol in 75 gm. distilled water, repeated twice daily and kept up for eight days. One was a puerperal process, another thrombophlebitis after typhoid fever. In 4 other cases these injections had to be abandoned on account of pneumonia, septic diarrhea or negative results. Six febrile consumptives treated with the collargol per rectum have not shown any benefit to date.

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## The Birth and Origin of Syphilis.

BY JOHN KNOTT, M.D.

DUBLIN, IRELAND.

It is a singular fact in the history of medicine that the date and the locality of the origin of syphilis have never been settled, although both have been frequently discussed ever since that disease was first definitely described in writing. A widespread story of its origin was that it was imported to Europe by the crews of Columbus from Hayti—having previously been utterly unknown on that side of the Atlantic. And that it was communicated to the French besiegers by the Spanish garrison of Naples in 1494, and thence rapidly dispersed throughout Europe. The degree of credit which the French received for its propagation is well shown by the epithet by which it was most generally known and described by physicians for the succeeding couple of centuries: that of *morbus Gallicus*. From the original locus of its European center of propagation, it was sometimes referred to as *morbus Neapolitanus;* and, on account of the ascribed Spanish-American importation, it also received the compound epithet of *scabies Hispanica*.

The racial antipathies of dirt-throwing patriots sometimes found partial vent in transferring the pathologic scandal to the nationalities whom they respectively most detested. In this way the Gallic surname of the loathsome plague was from time to time fitfully displaced in favor of that of each of the other warring nations. So that it has been called the "German disease," "Polish disease," "Turkish disease"; by the Turks the "Christians' disease," and so on. Even the name *syphilis*, by which it is now universally known, remains to the present day the *pons asinorum* of medical etymologists. Whatever may be the actual derivation of the term, its history does not appear to be traceable further back than its use by the famous Italian poet-physician, Jerome Fracastorio (1482-1553), whose metrical description of the disease, under the name *syphilis, sive morbus Gallicus*, still remains the best of the early accounts of its prominent features.

### THE ORIGINAL EUROPEAN EPIDEMIC OF SYPHILIS.

Short and very sketchy accounts of the new plague began to appear in the closing years of the fifteenth century; indeed, almost from the date of the famous siege of Naples (1494), at which it was then said to have made its first appearance. But, in connection with the story of the West Indian source of the infection, it is specially significant to note that there was no such statement made before the year 1525. But if the assertion of an American genesis of the venereal germ is conspicuous by its absence, its place is supplied with a kaleidoscopic variety of statements and theories which collectively give a very impressive idea of the infantile inventiveness and credulity which characterize the pathology of the Renaissance period.

Two of the most prominent and learned physicians of the day confidently announced their belief that the origin of the "French disease" was due to the close "conjunction" of the sun with the planets Mercury, Jupiter and Saturn, which occurred in the year 1483—which also marked the advent of one of the greatest sources of moral disturbance and destructiveness of vested interest which Europe had experienced for many centuries, in the birth of the religious iconoclast, Martin Luther! As it so happened that the year in which the great initial epidemic of venereal disease spread over Italy was also characterized by exceptionally heavy rains and inundations, the still more famous physician, Nicolaus Leonicenus, discarded the astrologic theory of Corradino Gillini and Gaspare Torella, and advanced the less elevated meteorologic one—that the outbreak of this foul disorder was really engendered by the excessive amount of moisture then existing in the heavens above and in, as well as on, the earth beneath. The great reputation of this physician governed the opinion of many subsequent authorities.

Manardi and Paracelsus both ascribed the origin of the new disease to the intercourse of a leprous man and a prostitute; the former knew of the case—the man was a Valentian by birth; the evidence possessed by Paracelsus was similar, but the male partner in his case was of French nativity. The celebrated Antonius Musa Brassavola of Ferrara informed the professional world that the original epidemic of the French evil spread from the person of a female camp-follower of the French army at the siege of Naples. But a widely different account was furnished by the famous Gabriel Fallopius of Modena—of anatomic immortality—who avers that the Spaniards, when hard-pressed by their French besiegers, poisoned the wells from which the latter obtained their supply of water, and that the new epidemic arose from that cause alone.

The celebrated Andrea Cesalpino—of physiologic immortality—tells us that he learned from persons who had been present at the siege of Naples and the other operations of that campaign that the disease really originated at the siege of Lomma, a village of the Vesuvian territory. There was a great quantity of an excellent (and much-coveted) Greek wine shut up there. One night the besieged Spanish garrison managed to effect their escape, leaving behind them the greater part of their wine—which they had previously mingled with the blood of the sick of San Lazaro. The French besiegers, on entering the place next day, with the usual pillaging instincts of "that dissipated nation," drank freely of the luscious wine —after which they soon began to develop venereal symptoms. The noted Bolognese physician, Leonardo Fioravanti, states that he was informed by the son of a person who had been sutler to the army of Alfonso, King of Naples, that when the meat supply began to run short on account of the prolonga*tion of the war this sutler* supplied the camps with dressed human flesh instead. The unconscious cannibalism which followed the grewsome fraud was the immediate cause of the development of the *morbus Gallicus*. Indeed, the famous English philosopher, Lord Chancellor Bacon, quotes this story, as he does so many other "old wives' tales," with patronizing credulity; and informs us, too, that the human flesh supplied on that epoch-making occasion was of men killed in Barbary, and which had been prepared and dressed after the manner employed with that of tunny-fish.

While so much mythologic lore remains connected with the origin of the great epidemic of syphilis which swept Europe at that date, it is no matter for surprise that the question of the existence of the disease in ancient times still remains a matter of dispute.

34 York Street.

## Association News.

List of new members for the month of December, 1903:

### ALABAMA.

Inge, J. T., Mobile.
Bandy, E. C., Oxmoor.
Howell, S. M. C., Midland City.
Penn, R. L., Basham.
Acton, S. W., Trussville.
Hill, E. P., McShaw.

### ARKANSAS.

Ellsworth, P. H., Hot Springs.
Jelks, F. W., Hot Springs.
Davis, E. N., Little Rock.
Ward, Wm. W., Victoria.
Youngblood, Fred, Huntsville.
Lowe, A. M., Gillett.
Hesterly, Albert, Sayre.
Bradley, Wm. A., Jasper.
Huffaker, Granville B., Russell.
Hunt, Wm. J., Macedonia.
Wood, B. G., Cominton.
Willis, Lemual E., Newport.
McKnight, E. D., Brinkley.
Howell, A. R., Argenta.
Causey, G. A., Swifton.

### CALIFORNIA.

Winterberg, W. H., San Francisco.
Herzstein, Morris, San Francisco.
Stillman, Stanley, San Francisco.
Richter, C. M., San Francisco.
Allen, H. W., San Francisco.
*Sprague, Frances R., San Francisco.*
O'Connell, Maurice W., San Francisco.
Dunn, J. P., Oakland.
Channell, D. B., Oakland.
Sinclair, O. W., Eureka.
Falk, C. C., Eureka.
Falk, Curtis O., Eureka.
Mills, Chas. W., Areata.
Newcomb, A. T., Pasadena.
Cothran, A. Lincoln, Jan Jose.
Ford, J. C., Rocklin.
Liverman, J. R., San Lucas.
Flint, W. H., Santa Barbara.
Alderson, H. E., San Francisco.
Wahl, H. A., San Francisco.

### COLORADO.

Rothrock, F. B., Colorado Springs.
McLean, C. H., Denver.
Moleen, G. A., Denver.
Burcell, E. C., Elyria.
Allen, H. W., Boulder.
McDougal, L. E., Canon City.
McClure, C. O., Starkville.
Roe, J. F., Salida.
Bailey, M. M., Loveland.

### CONNECTICUT.

Littlejohns, P. D., New Haven.
Daggett, W. G., New Haven.

### FLORIDA.

Upchurch, N. A., Jacksonville.

### GEORGIA.

Smith, Wm. T., Robley.
Moorman, Ivy W., Ambrose.
Belcher, Francis S., Mansfield.
Smith, R. E., Savannah.
Barge, A. A., Newnan.
Van Marter, Jas. G., Savannah.
Adams, F. L., Elberton.
Palmer, J. W., Alley.

### ILLINOIS.

Graham, Jas. F., Chicago.
Zapffe, F. C., Chicago.
Hollister, J. C., Chicago.
Murphy, D. E., Chicago.
Cleverdon, Ella, Chicago.
Goldberger, Henry E., Chicago.
Osbaldeston, J. T., Chicago.
Brown, R. E., Chicago.
Luckhardt, A. E., Chicago.
Newhall, G. F., Chicago.
McPherson, P., Chicago.
Gabriel, E. J., Payson.
Hilton, G. F., St. Augustine.
Crabtree, B. F., Pulaski.
Grosvenor, L. N., Chicago.
Green, R. L., Peoria.
Kerr, Chas., Springfield.
Muehlmann, C. G., Pekin.
Fountain, J. H., Chapin.
Broening, M., Carlyle.
Wales, Albert H., Lanark.
Dow, E. L., Rock Falls.
Pershing, F. O., Tiskilwa.
*Clark, E. E., Cerro Gordo.*
Ware, H. A., Chicago.

### INDIANA.

Rogers, J. G., Logansport.
Hetherington, J. P., Logansport.
Wallace, J. C., Ft. Wayne.
Selman, J. W., Greenfield.
Fattic, J. B., Anderson.
Hazlewood, John, New Albany.
Kell, S. D., Liberty.
Hughes, H. J., Kramer.
Terhune, R. W., Whiteland.
Wyeth, Chas., Terre Haute.
Ward, J. M., Kewanna.
Yocum, B., Coal City.

### INDIAN TERRITORY.

Rice, O. W., Buck.
Pigg, Wm. B., So. McAlister.

### IOWA.

*Droz*, A. J., West Chester.
Richmond, A. C., Ft. Madison.
McWilliams, C., Ames.
McCarthy, D. J., Davenport.
Nordstrum, S. G., Sioux Rapids.
Gockley, A. S., Carroll.
Buxton, O. C., Woodward.
Reiley, W. S., Red Oak.
Clark, G. H., Waterloo.
Seidler, W. A., Jamaica.
Clegg, C. S., Columbus Junc.
Shirley, G. F., Missouri Valley.
Petersen, H. P. C., Radcliffe.
Wilson, J. B., Ottumwa.
Braunlich, Henry, Davenport.
Hunter, H. C., Sheffield.
Beveridge, Thos. F., Muscatine.
Bellinger, M. J., Council Bluffs.
Kelleher, T. F., Des Moines.

### KANSAS.

Finley, M. A., Cherry Vale.
Dykes, S. B., Esbon.
*Campbell, D. W., Atchison.*

### KENTUCKY.

Moraweck, Ernest, Louisville.
Ferguson, J. W., Shawhan.
Lapsley, Frank P., Paris.
Burr, Wm. R., Auburn.
Trabue, L. P., Elkton.
Hart, Jas. G., Murray.
Howard, C. E., Benton.
Hancock, D. O., Henderson.
Leech, J. S., Glasgow.
Wallace, H. H., Hopkinsville.
Dunham, Christopher C., Pineville.
Parker, J. W., Gray.
Slaton, A. J., Leitchfield.
Willmott, A. C., Hutchison.
Williams, J. E., Morton's Gap.
Furnish, J. G., Lakeland.
Byrne, Walter, Russellville.
McCreary, J. C., Cave City.
London, Willis, Franklin.
Swango, O. H., Jackson.
Cox, S. A., Bardstown.

### LOUISIANA.

Eustis, A. C., New Orleans.
Fridge, J. R., Baton Rouge.
Mauboules, J. P., Rayne.
Choppin, A. R., Lamothe.

### MAINE.

Bemis, O. L., Bangor.
*Clough, D. J., Portland.*
Brown, F. I., So. Portland.
Judkins, N. C., Rockland.
Adams, F. B., Rockland.

### MARYLAND.

Massenburg, R. C., Towson.
MacCallum, W. G., Baltimore.

### MASSACHUSETTS.

Davis, S. R., Lynn.
Fletcher, R. W., So. Boston.
Small, A. E., Clinton.
Locke, E. A., Boston.
Cary, F. H., Worcester.
Ripley, W. L., Newton.
Fennessey, J. F., Boston.
Gardner, C. K., Northampton.
Cheever, C. A., Mattapan.

### MICHIGAN.

Dees, C. J., Detroit.
Cleland, J., Jr., Detroit.
Pearson, C. B., Grand Blanc.
Lee, S. S., Osceola Mine.
Clark, D. R., Dearborn.
Taylor, W. J., Burnside.
Harvey, W. M., Detroit.
Wendt, C. R., Jackson.
Suiter, J. P., Hadley.
Sumner, B. R., Clinton.
Green, B. F., Hillsdale.
Heavenrich, Theo., Pt. Huron.
Ward, W. E., Owosso.
Long, C. B., Mendon.
Scott, F. A., Davis.

### MINNESOTA.

Riley, E. A., Willow River.
Aurand, W. H., Minneapolis.

### MISSISSIPPI.

Backstrom, J. L., Crenshaw.

### MISSOURI.

Spooner, Ernest H., St. Louis.
Reyling, F. T., Kansas City.
Lee, Herbert, St. Joseph.
Dwight, K. M., Hamilton.
Bogart, T. N., Excelsior Springs.
Graham, R. E., Columbia.
Beeman, S. M., Chillicothe.
Davis, T. O., Maitland.
Lare, H. S. P., St. Louis.
Howard, O. L., St. Louis.
Lockwood, W. A., Conway.
Breuer, W. H., St. James.

### NEBRASKA.

Borglum, J. M., Omaha.
Wilson, S. S., Nebraska City.
Thompson, J. W., Sutton.
Byers, J. N., Fontanelle.
Carson, W. T., Holstein.
Kee, A. L., Holbrook.
Roberts, D. H., Bethany.
Byers, S. J., Snyder.
Wigglesworth, T., Hooper.
Stewart, E. R., Blair.
*Bedal, M. D.*, Blair.
Case, E. S., Stockville.
McElwee, F. M., Macon.
Lester, F. W., David City.
Beach, S. C., McCook.
Hazle, M. M., Cedar Rapids.
Burgess, F. D., Cedar Rapids.
Grimm, P. G., Arlington.
Walker, D. G., Lindsay.
Simon, Frank, Oakland.
Robinson, C. O., Blair.
*Cross, A., Crawford.*

### NEW HAMPSHIRE.

Meserve, J. S., Dover.
Cummings, F. R., Concord

### NEW JERSEY.

Harvey, E. H., Atlantic City.
Risk, Wm. H., Summit.

### NEW YORK.

Merritt, L. J., Pine Bush.
Cleland, C. S., Sinclairville.
Moulton, W. A., Nichols.
Blake, Jos. A., New York City.
Onuf, B., Sonyea.

### OHIO.

Waters, P. T., Chattanooga.
Bernheim, Ruth, Cincinnati.
Marxmiller, H. G., Cincinnati.
Middleton, W. B., Cuyahoga Falls.
Seward, I. E., Springfield.
Link, J. A., Springfield.
Smith, A. K., Logan.
Cox, M. E., Murray City.
Barnes, E. J., Granville.
Barnes, S. S. P., Massillon.
Davis, J. W., Defiance.
Patterson, Chas. E., Morning Sun.
Pherson, A. M., Osborn.
Hickin, F. W., Cleveland.
Banker, D. F., Canton.
*Weeks, D. O., Marion.*
Gunsolly, W. N., Collinwood.
Benkert, L. C., Columbus.
Foltz, E. B., Akron.
Schirrmann, H. A., Portsmouth.

### OKLAHOMA.

Barker, E. O., Guthrie.
Muzzy, W. J., El Reno.

### OREGON.

Henderson, H. L., Astoria
Finch, A. A., Astoria.
Thomas, C. W., Milton.

### PENNSYLVANIA.

Chestnut, J. C., Philadelphia.
Birney, H. H., Philadelphia.
Cairns, A. A., Philadelphia.
Connor, F. M., Philadelphia.
Keller, A. P., Philadelphia.
Moore, H. D., Philadelphia.
Bainbridge, E. H., Philadelphia.
Boenning, H. C., Philadelphia.
Behrend, Moses, Philadelphia.
Wightman, J. G., Philadelphia.
Hawkins, J. A., Pittsburg.
Schneider, Chas., So. Williamsport.
Cummings, C. J., Williamsport.
Winter, S. Eliz., W. Conshohocken.
Fink, H. M., Allegheny.
Millhoff, C. B., Johnstown.
*Neuber, S. T., Philadelphia.*
Ward, E. T., Philadelphia.

### TENNESSEE.

Moore, Moore, Memphis.
Tucker, N. M., Leipers Fork.
Shields, D. E., Morristown.
Wright, I. M., *Tiptonville.*
Copeland, W. J., Fetzerton.
McNabb, Chas. P., Knoxville.
Zirkle, Geo. P., Dossitt.

### TEXAS.

Lain, Geo. D., Sanger.
Thomas, J. B., Abilene.
Ousley, J. W., Dennison.
Irby, Alf, Weatherford.
Mahan, L. L., Hempstead.
Robinson, J. D., Brookshire.
Baines, L. W., Brookshire.
Heartsill, Chas. E., Marshall.
Traweek, A. C., Matador.
Ramey, Robt. Lee, El Paso.
Allen, Geo. W., Harletan.
Graves, M. L., San Antonio.
Wilson, R. S., Gainesville.
Gilbert, D. W., Sowers.
Hall, E. P., Ft. Worth.
Cooper, C. T., San Angelo.
Trevino, Sebastian, San Antonio.

### VERMONT.

Mackay, A. J., Peacham.

### VIRGINIA.

Guthrie, J. A., Portsmouth.

WASHINGTON.

Newcomb, J. S., Everett.
McKinnon, A. B., Fairhaven.
James, Chas., Tekoa.
Nadean, Fonda, Seattle.
Clark, H. J., Seattle.
Calhoun, Grant, Renton.

WEST VIRGINIA.

McCaskey, A. E., Pine Grove.
Hennen, L. S., Rosbys Rock.
Guthrie, L. V., Huntington.
Smith, J. S., Wheeling.
Malcolm, Melvin P., Lewiston.
Bee, A., Cairo.
Aultze, O. L., Charleston.
Mitchell, A. J., Benning Springs.
Corbin, M. L., Ellenboro.
Post, S. H., Glen Falls.
Sloan, H. E., Clarksburg.
Rexroad, Chas. W., Harrisville.
Lemley, W. H., Littleton.
Coleman, J. E., Kay Moor.
Reger, J. F., Littleton.

WISCONSIN.

Cutler, John C., Verona.
Loops, W. A., Darien.
Foster, F. L., Fond du Lac.
Gaillardet, L. P. L., Hurley.
Macdonald, W. H., Lake Geneva.
Freeman, D. R., Colby.
Andre, F. E., Kenosha.

## State Boards of Registration.

### COMING EXAMINATIONS.

Indiana State Board of Medical Registration and Examination, Indianapolis, Jan. 13, 1904. Secretary, Dr. W. T. Gott, Crawfordsville.

Board of Medical Examiners of South Dakota, Cataract Hotel, Sioux Falls, Jan. 13-15, 1904. Secretary, Dr. H. E. McNutt, Aberdeen.

Wisconsin Board of Medical Examiners, Milwaukee, Jan. 12, 1904. Secretary, Dr. F. R. Forsbeck, Milwaukee.

State Medical Board of Arkansas, Little Rock, Jan. 12, 1904. Secretary, J. P. Runyan, Little Rock.

Vermont State Board of Medical Censors, Y. M. C. A. Bldg., Burlington, Jan. 13-14, 1904. Secretary, Dr. S. W. Hammond, Rutland.

Board of Medical Supervisors of the District of Columbia, Washington, Jan. 14, 1904. Secretary, Dr. Wm. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, Jan. 14-16, 1904. Secretary, Dr. J. A. Egan, Springfield.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

New York State Board of Regents, at New York, Albany, Syracuse and Buffalo, Jan. 26-29. Secretary, James Russell Parsons, State Capitol, Albany.

Texas Report.—Dr. M. M. Smith, Austin, secretary of the Board of Medical Examiners for the State of Texas, reports the written examination held at Ft. Worth, Oct. 13 to 15, 1903, as follows: Subjects, 13; questions, 125; percentage required, 75; candidates, 34; passed, 24; failed, 10. Undergraduates numbered 8 of those who passed, or one-third, and 5 of those who failed, or one-half. The graduates are listed below:

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Chattanooga Medical College | 1903 | 75 |
| Medical Department Tulane University | 1902 | 86 |
| Medical Department Tulane University | 1902 | 84 |
| Jefferson Medical College | 1875 | 75 |
| Med. Dept., University of Tennessee | 1898 | 86 |
| Illinois Medical College | 1902 | 81 |
| Indiana Medical College | 1903 | 77 |
| Med. Dept., University of Texas | 1903 | 83 |
| Hospital College of Medicine (Louisville) | 1903 | 87 |
| Medical Department, University of Kentucky | 1903 | 79 |
| Dallas Medical College | 1903 | 77 |
| College | 1903 | 84 |
|  | 1903 | 88 |
| " | 1898 | 75 |
| " | 1894 | 75 |
| " ine (Louisville) | 1885 | 83 |

FAILED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| University of Louisville (Kentucky) | 1878 | 70 |
| Chattanooga Medical College | 1901 | 69 |
| Medical College of Ohio | 1901 | 72 |
| Illinois Medical College | 1903 | 71 |
| Tennessee Medical College | 1899 | 71 |

The questions asked were as follows:

#### GYNECOLOGY.

1. Give the blood and nerve supply of the uterus, ovaries and vagina. 2. What are the means used in examination of the pelvic organs of the female? 3. Describe the preparation necessary for an aseptic gynecologic operation in private practice. 4. Give the etiology, pathology, diagnosis and treatment of vulvitis pruriginosa, or pruritis of the vulva. 5. Give the pathology, symptoms, prognosis, complications and treatment of specific vaginitis. 6. (*a*) Give the subjective and objective symptoms of imperforate hymen. (*b*) Describe the operation for its relief. (*c*) The dangers attending or following operation and after-treatment. 7. (*a*) Give the ascribed causes of calculus in the female bladder. (*b*) The most common varieties. (c) The different methods of treatment of the same. 8. What are uterine fungosities; symptoms and technic of treatment? 9. What are the most common benign growths found in the cavity of the uterus; causes, symptoms and treatment? 10. (*a*) Give the causes of retroversion and retroflexion of the uterus. (*b*) Give the differential diagnosis between the two. (*c*) The treatment of each.

#### CHEMISTRY.

1. How would you test for albumin in the urine by heat. State possible errors. 2. What is Heller's test for albumin in urine? 3. What is Trommer's test for sugar in urine, and how made? 4. Give Marsh's test for arsenic. 5. Describe an electric battery, and explain the operations of the chemicals used. 6. Give the chemistry of respiration, showing what is inhaled, what is exhaled and how the gases enter and leave the blood. 7. How is oxygen administered to a patient in bed? 8. What are the chemical antidotes to be used in carbolic acid poisoning? 9. What chemical antidotes should be used in corrosive sublimate poisoning? 10. What chemical antidote should be used in arsenical poisoning, and how would you prepare it?

1. Define blood pressure and the different agencies by which it is maintained. 2. Name the two chief divisions of the nervous system, and explain the difference in function between an afferent and an efferent nerve. 3. Explain the function of bile and the glycogenic function of the liver. 4. Explain the mechanism of respiration and the changes which take place in the blood and the air breathed during the same. 5. Name the important constituents of gastric juice and the final product of gastric digestion. 6. What route does fat take to reach the blood stream? 7. What is the ordinary temperature of the body in health, and how is it maintained? 8. Give the origin and function of the different fibers of the trifacial nerve. 9. Name the respiratory center and give the function of the tenth cranial nerve. 10. Describe the temporary and permanent teeth and the usual age for the eruption of each.

#### PATHOLOGY.

1. What diseases are attended with ulceration of the intestine? 2. What diseases are attended with cardiac hypertrophy? 3. What general pathological lesion characterizes chronic alcoholism? 4. What degenerative changes occur in the walls of an artery? 5. Give pathology of malarial cochexia. 6. Give pathology of scarlet fever. 7. What diseases are characterized by the formation of a membrane in the throat? 8. Give pathology of locomotor ataxia. 9. What changes are produced in the cerebral tissues by a thrombus? 10. Give pathology of acute pleurisy.

#### HISTOLOGY.

1. Name different varieties of epithelium. 2. Describe the periosteum. 3. Where is non-striped muscular tissue found? 4. Name and describe the coats of an artery. 5. Describe the wall of a capillary blood vessel. 6. Describe a lymph gland. 7. Give the structure of the pia mater of the brain. 8. Give the structure of a hepatic lobule. 9. Describe an air cell. 10. Give structure of a malpighian corpuscle.

#### MEDICAL JURISPRUDENCE.

1. Of what does medical jurisprudence treat? 2. What do you understand by the term "medical expert"? 3. State the difference between criminal and civil malpractice. 4. Give in detail the duties of the practitioner who is called to inspect a dead body. 5. What precautions are absolutely necessary to make a physician's testimony of value, when vomited matters, medicines, articles of clothing, blood stains, or any part of the human body is committed to his care for inspection or analysis? 6. Name some of the violent causes of death. 7. Give in detail the conditions which would warrant the induction of abortion by the practitioner. 8. At what stage of intrauterine life does the fetus become viable? 9. What are the evidences of a live birth subsequent to respiration? 10. Define the word "insanity."

#### PRACTICE OF MEDICINE.

1. Mention briefly the diagnosis and treatment of yellow fever, and the measures to prevent its spread. 2. Give the symptoms and treatment of diphtheria. 3. Give the varieties of malarial fever and their treatment. 4. Give the treatment of typhoid fever, and state briefly the measures to prevent infection. 5. Give in detail the early diagnosis of tuberculosis of the lungs, and briefly the treatment. 6. State briefly the care and treatment of scarlet fever until dismissed. 7. Give the diagnosis and treatment of lobar pneumonia. 8. Give the diagnosis and treatment of Bright's disease. 9. Give briefly the management and treatment of smallpox. 10. Give the medical treatment of appendicitis.

#### OBSTETRICS.

1. (*a*) Give the anatomy of the ovaries, (*b*) the uterus, (*c*) the vagina, and (*d*) the anatomic relations of each. 2. Describe the phenomena of ovulation and menstruation. 3. Describe the development of the fetus in the different months of pregnancy. 4. Give the causes and prevention of abortion, and treatment of inevitable abortion. 5. State some of the more important physiologic changes in the genitalia during a normal pregnancy. 6. State some of the more important changes in the maternal organism during pregnancy. 7. (*a*) Is the pregnant woman immune from any disease? (*b*) Does pregnancy modify or increase the severity of acute infectious diseases? (*c*) What are the chief dangers? (*d*) State in full what is the duty of the physician in regard to pregnant women during epidemics. 8. Puerperal infection: Give its etiology, pathology, diagnosis, prevention and treatment. 9. (*a*) What is the difference between the insanity in the pregnant woman and the puerperal state and that at any other period of the woman's existence? (*b*) What are the predisposing causes of insanity in the pregnant and puerperal state? 10. What are the symptoms of the so-called puerperal insanity? Give an outline of its treatment.

#### MATERIA MEDICA AND THERAPEUTICS.

1. What is (*a*) Fowler's solution, (*b*) Donovan's solution, (*c*) brown mixture, (*d*) Monsell's solution? 2. Name the principal local systemic emetics, and give their doses. 3. Physiologic action and therapeutics of pilocarpin. 4. What is (*a*) *Mentha peperita* and (*b*) *Mentha virides*, with their preparations and doses. 5. What are (*a*) escharotics, (*b*) antipyretics, (*c*) anthelmintics and (*d*) emollients? Name principal drugs belonging to each group. 6. What is (*a*) an alkaloid, (*b*) a decoction, (*c*) a tincture, and (*d*) a fluid extract? 7. What is the physiologic action of amyl nitrite, and for what is it used? 8. For what is arsenic used? Give symptoms and treatment of a case of arsenic poisoning. 9. Name the various groups of cathartics. Give the names of members of each group with their different actions. 10. What is the source of digitalis? Name its preparations and their doses.

### SURGERY.

1. Give the rules to be observed in administering a general anesthetic. 2. In case of threatened death from general anesthesia, what measures should be instituted? 3. Describe an amputation of the middle third of the thigh, and the antiseptic precautions before operation. 4. Under what circumstances should you operate in a case of gangrene? 5. Under what circumstances should you operate in a case of appendicitis? 6. Give the different varieties of stricture of urethra and methods of treatment. 7. Classify the different dislocations of hip joint, and treatment of each. 8. Give different methods of arresting arterial hemorrhage. 9. Give different methods of treating hemorrhoids. 10. Give diagnosis and treatment of fistula in ano.

### EYE, EAR AND THROAT.

1. Give diagnosis and treatment of iritis. 2. Give diagnosis and treatment of acute glaucoma. 3. Give diagnosis and prognosis in recurrent fibroma of nose. 4. Give etiology and treatment of mycosis of external ear. 5. Give diagnosis and treatment of mastoid disease or suppurative otitis media.

### HYGIENE.

1. At what temperature would you keep a sick room, and how ventilate it for a patient with pneumonia? 2. Give details of fumigating a room, recently occupied by a patient with scarlet fever, with sulphur and with formalin. 3. In hospitals, prisons, etc., what should be the minimum number of cubic feet of air space allowed for each occupant? 4. How soon should a child be allowed to return to school after having had scarlet fever? 5. What is the best general method of purifying drinking water? 6. Where is the contagion of typhoid fever found; how carried, and how is the spreading of the disease prevented? 7. At what temperature is it necessary to heat milk to sterilize and pasteurize it? 8. Below what degree of temperature is it necessary to keep milk to prevent its souring or "turning"? 9. What per cent. of the oxygen inhaled is consumed during an ordinary inspiration? 10. What per cent. of carbonic acid gas is there in exhaled air during ordinary respiration?

### ANATOMY.

1. Describe the upper third of the femur. 2. Describe the ankle joint, giving also the articulation of bones entering into its formation. 3. What anatomic structures would be cut in an amputation of the upper third of the leg? 4. Describe the fourth ventricle. 5. Give the origin, course and distribution of the inferior maxillary nerve. 6. What is Scarpa's triangle? Give its boundaries and relation of the vessels and nerve. 7. Give the origin, insertion, nerve supply and action of the following muscles: Pronator radii teres, biceps, and levator ani; describe each separately. 8. Give the origin, course and branches of the external carotid artery. 9. Describe the kidney, giving its relation and also the relation of the structures entering and leaving it. 10. Give a brief anatomy of the entire alimentary tract.

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# The Public Service.

## Army Changes.

Memorandum of changes of stations and duties of medical officers, for the week ending Jan. 2, 1904:

Williams, A. W., asst.-surgeon, leave of absence extended for twenty-three days.

Truby, W. F., asst.-surgeon, granted leave of absence for one month.

McMillan, Clemens W., contract surgeon, relieved from further duty in the Division of the Philippines, and at the expiration of his two months' leave of absence, to proceed to Fort Myer, Va., for duty.

Stone, Frank P., contract dental surgeon, relieved from further duty in the Division of the Philippines, and at the expiration of his month's sick leave of absence, will report for duty at the Presidio of San Francisco.

Hammond, William G., contract dental surgeon, when relieved from duty at the Presidio of San Francisco, will proceed to Manila for duty in the Division of the Philippines.

Watkins, Victor E., contract surgeon, now at San Francisco, is ordered to duty in the Department of California, and will not go to the Philippines.

Gibson, Edward T., contract surgeon, recently arrived at Fort Ethan Allen, Vt., with the 15th Cavalry from the Philippine Islands, has been granted leave of absence for one month.

Kemp, James F., contract surgeon, recently returned to Washington, D. C., from Philippine service, has been granted leave of absence for one month.

Fisher, William C., contract dental surgeon, is now in Washington, D. C., on leave of absence from Fort Wayne, Mich.

## Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Jan. 2, 1904:

Marcour, R. O., asst.-surgeon, detached from the *Franklin* and ordered to the *Dixie,* for duty with the Panama Marine Brigade.

Brister, J. M., asst.-surgeon, detached from the *Isla de Cuba* and ordered home.

Guthrie, P. A. surgeon, ordered to the *Franklin.*

Freeman, G. F., P. A. surgeon, ordered to the naval station, Olongapo, P. I.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 2, 1904:

### SMALLPOX—UNITED STATES.

Arkansas: Fort Smith, Dec. 12-19, 1 case.

California: San Francisco, Dec. 13-20, 3 cases.

Colorado: Denver, Nov. 14-28, 3 cases.

Illinois: Chicago, Dec. 19-26, 4 cases.

Indiana: Evansville, Dec. 19-26, 1 case.

Louisiana: New Orleans, Dec. 19-26, 1 case.

Maine: Dec. 19, Brewer, 1 case; Old Town, 9 cases; Orono, 1 case.

Massachusetts: Dec. 19-26, Brockton, 1 case; Fall River, 1 case; Haverhill, 1 case.

Michigan: Dec. 19-26, Flint, 1 case; Port Huron, 2 cases.

Nebraska: Omaha, Dec. 19-26, 1 case.

New Hampshire: Manchester, Dec. 19-26, 2 cases.

New York: New York, Dec. 19-26, 1 case.

Ohio: Cincinnati, Dec. 18-25, 8 cases; Dayton, Dec. 19-26, 4 cases; Youngstown, Dec. 12-19, 12 cases.

Pennsylvania: Altoona, Dec. 12-19, 1 death; Dec. 19-26, Erie, 1 case; Philadelphia, 66 cases, 14 deaths; Pittsburg, Dec. 16-23, 18 cases, 6 deaths.

South Carolina: Charleston, Dec. 19-26, 1 case, imported.

Tennessee: Memphis, Dec. 19-26, 17 cases.

Wisconsin: Milwaukee, Dec. 19-26, 10 cases.

### SMALLPOX—FOREIGN.

Austria-Hungary: Nov. 28-Dec. 5, Prague, 20 cases; Trieste, 1 case.

China: Shanghai, Nov. 14-21, 1 death.

Colombia: Barranquilla, Dec. 5-13, 3 deaths.

France: Paris, Dec. 4-12, 17 cases.

Great Britain: Dec. 5-12, Birmingham, 2 cases, 1 death; London, 2 cases; Manchester, 2 cases; Newcastle-on-Tyne, 1 case; Nottingham, 1 case; Glasgow, Dec. 11-18, 28 cases, 1 death.

India: Bombay, Nov. 24-Dec. 1, 1 death.

Netherlands: Rotterdam, Dec. 5-12, 1 case.

Russia: Moscow, Nov. 21-Dec. 5, 5 cases, 3 deaths; Odessa, Nov. 28-Dec. 5, 6 cases; St. Petersburg, Nov. 16-Dec. 5, 81 cases, 2 deaths.

Turkey: Beirut, Nov. 28-Dec. 5, present; Smyrna, Nov. 22-29, 7 deaths.

Uruguay: Montevideo, Sept. 5-Oct. 31, 12 cases.

### YELLOW FEVER—UNITED STATES.

Texas: Laredo, Dec. 26, 1 case.

### YELLOW FEVER—FOREIGN.

Colombia: Cartagena, Nov. 23-30, 1 death.

Mexico: Dec. 6-12, Ciudad Victoria, 3 cases, 2 deaths; Merida, 2 cases, 1 death; Vera Cruz, 9 cases, 2 deaths.

### PLAGUE—INSULAR.

Philippine Islands: Manila, Oct. 24-Nov. 14, 2 cases, 2 deaths.

### PLAGUE—FOREIGN.

Australia: Brisbane, Sept. 1-30, 1 case, 1 death.

China: Hongkong, Nov. 7-14, 1 death.

Egypt: Nov. 21-28, Alexandria, 1 case, 1 death; Minieh, 3 cases, 1 death.

India: Bombay, Nov. 24-Dec. 1, 51 deaths; Calcutta, Nov. 14-28 43 deaths; Karachi, Nov. 22-29, 8 cases, 7 deaths.

Mauritius: Nov. 12-Dec. 3, 208 cases, 114 deaths.

### CHOLERA—INSULAR.

Philippine Islands: Manila, Oct. 24-Nov. 4, 19 cases, 18 deaths; Provinces, Oct. 24-Nov. 14, 551 cases, 418 deaths.

### CHOLERA—FOREIGN.

India: Madras, Nov. 14-20, 3 deaths.

Japan: Nagasaki, Nov. 21-30, 1 death.

Straits Settlements: Singapore, Nov. 7-14, 5 deaths.

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# Medical Organization.

## Iowa.

Lyons County Medical Society.—The physicians of the county met at Rock Rapids, December 29, and organized a society on the standard plan, with 19 charter members, and the following officers: President, Dr. Z. T. Holtsclaw, Larchwood; vice-president, Dr. W. W. Bartine, Rock Rapids; secretary and treasurer, Dr. W. T. Schwabland, Lester, and censors, Drs. John E. North, Rock Rapids, John F. Brott, Doon, and Alexander Macnab, Rock Rapids.

## Maryland.

Carroll County Medical Society.—This society was organized at Westminster, December 8, with the following officers: President, Dr. J. Howell Billingslea, Westminster; secretary-treasurer, Dr. Charles R. Foutz, Westminster, and vice-presidents (one from each district) Dr. Clotworthy Birnie, Taneytown; Luther Kemp, Uniontown; John J. Stewart, Silas M. Gorsuch, Finksburg; Daniel B. Sprecher, Sykesville; James H. Preston, Manchester; Joseph T. Hering, Westminster; Richard C. Wells, Hampstead; Edwin D. Cronk, Westminster, Charles H. Diller, Double-pipe Creek; G. H. Winterson, W. Durbin Brown, Union Bridge, and William E. Gaver, Mountairey. Drs. J. McPherson Scott, Hagerstown, and G. Milton Linthicum, Baltimore, representing the Medical and Chirurgical Faculty of Maryland, were present, and made addresses on the needs, purposes and benefits of medical organization.

### New Jersey.

**Camden County Medical Society.**—At a meeting held in Camden, December 8, the District Medical Society reorganized under the standard plan, as the Camden County Medical Society.

### North Carolina.

**Sixth District.**—Dr. Hubert A. Royster, Raleigh, councilor for this district, announces under date of December 26 that he has effected organization in all counties in his district with the exception of Warren County, where his efforts have as yet been unsuccessful.

**Vance County Medical Society.**—This society has been organized by Dr. Hubert A. Royster, Raleigh, councilor for the Sixth District, with the following officers: President, Dr. Robert J. Gill, Henderson; vice-president, Dr. Fletcher R. Harris, Henderson; secretary and treasurer, Dr. George A. Coggeshall, Henderson, and censors, Drs. John H. Tucker, Henderson, C. G. Ferabee, Kittrell, and William McAllister, Middleburg.

**Franklin County Medical Society.**—Dr. Hubert A. Royster, Raleigh, councilor for the Sixth District, announces the organization of this society with the following officers: Dr. James E. Malone, Louisburg, president; Dr. J. J. Mann, Stallings, vice-president; Dr. Samuel P. Burt, Louisburg, secretary and treasurer, and Drs. Ivy G. Riddick, Youngsville, Richard B. Henderson, Franklinton, and John R. Wheless, Centerville, censors.

### Ohio.

**Ninth District Medical Society.**—This district society, the first to be organized in the state, met at Jackson, December 3, and with the aid of Dr. John E. Sylvester, Wellston, councilor for the district, perfected its organization and elected the following officers: Dr. Orrin C. Andre, Waverly, president; Dr. Joseph S. Rardin, Portsmouth, vice-president, and Dr. Lester Keller, Ironton, secretary and treasurer. About 60 physicians were present, including Dr. Brooks F. Beebe, chairman of the council, and Drs. Charles L. Bonifield and Horace J. Whitacre, Cincinnati.

### South Dakota.

**Sixth District Medical Society.**—The secretary notifies us that the report of the election of officers of this society, which appeared in The Journal, December 26, should be amended so as to read that Dr. Rodell E. Warne, Mitchell, was elected delegate to the state society, and Dr. Roscoe H. Goodrich, Chamberlain, alternate.

### Texas.

**El Paso County Medical Society.**—This society was reorganized at El Paso, December 12, in compliance with the rules and regulations of the American Medical Association, with the following officers: President, Dr. Junius A. Rawlings; vice-president, Dr. M. P. Schuster; secretary, Dr. Gottlieb Wehrle; treasurer, Dr. Edward H. Irvin; delegate to Texas State Medical Association, Dr. Stephen T. Turner, and censors, Drs. William H. Anderson, Marcus O. Wright and Herbert E. Stevenson, all of El Paso.

### Wisconsin.

**Dane County Medical Society.**—This society, which was formed September 17, perfected its organization by adopting the standard constitution and by-laws at its meeting in Madison, December 15, at which the following officers were elected: President, Dr. Cornelius A. Harper, Madison; vice-president, Dr. William F. Pinkerton, Mazomanie; secretary and treasurer, Dr. Reginald H. Jackson, Madison, and Dr. Niels C. Evans, Mount Horeb, delegate to state society.

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# Society Proceedings.

## SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Sixteenth Annual Session, held in Atlanta, Ga., Dec. 15-17, 1903,*

*(Continued from page 53.)*

### Neoplasms, Wherever Situated, Should, if Possible, Be Removed, Whatever Their Apparent Nature.

**Dr. Maurice H. Richardson**, Boston, gave reasons for the rule, stated in the title, pertaining chiefly to neoplasms of the breast and of the female pelvis, but applying with certain exceptions to all parts of the body. These reasons, all of which were illustrated by specific cases of his own, were as follows:

1. The uncertainty of the diagnosis, even by those most experienced and skilful, makes palliative treatment hazardous, especially in doubtful cases. Cases were referred to; as of breast tumors apparently benign which had proved malignant, or in which minute foci of malignancy were discovered, or which after many years developed a fatal malignancy, etc.
2. Benign tumors may become malignant.
3. The wisdom of exploration in certain apparently hopeless tumors is illustrated by cases in which a benign and easily remediable condition was found, and in which impending death was averted by a safe operation. Thus supposedly malignant tumors proved to be curable tuberculosis foci; epigastric tumors, apparently cancerous, to be pancreatic cysts, etc.
4. Certain organs have a malignancy-inviting nature, especially the breasts and the ovaries.
5. The benign often masks the malignant, especially in pelvic tumors. For example, the obscuration of a uterine sarcoma by an overlying fibroid.

The rule of universal extirpation has numerous exceptions. It should not apply to superficial tumors, clearly benign, which can not be removed without great disfigurement unless they show a tendency to ulceration and malignancy; or to other benign tumors, the removal of which would cause needless suffering, disability, disfigurement, or danger; or to tumors of all kinds in which the dangers and sufferings of removal outweigh the dangers and sufferings of the tumors themselves.

#### DISCUSSION.

**Dr. Henry T. Byford**, Chicago, said he belonged to the Chicago Academy of Medicine, whose motto is: "When you see a head, hit it." He thought this would fittingly apply to the removal of tumors as soon as they were seen. He cited a tumor the size of a hickory nut, situated between the bladder and uterus, which the attending physician said did not amount to much, arguing against operation. The woman subsequently became pregnant, miscarried at the fifth month, the tumor having attained the size of an egg. No matter whether a tumor is going to become malignant or not, it is a foreign body and should be removed as soon as possible.

**Drs. W. P. Nicolson**, Atlanta, and **W. B. Coley**, New York, narrated cases, the latter speaking of an eminent surgeon, who watched a tumor for a year, telling the patient not to have anything done until he thought she needed it. When the tumor was finally pronounced cancer and removed, recurrence soon caused death. Dr. Coley thought these growths should be removed without waiting to determine whether they were malignant or not.

**Dr. W. P. Carr** thought that a routine practice of examining microscopically all small benign tumors removed would show many of them to be malignant.

**Dr. J. M. Baldy**, Philadelphia, supported the essayist in saying that these neoplasms ought to be removed, no matter where they occurred. In the past year he had reoperated twice on cases of cancer that had been subjected to *x*-ray treatment, and in one he had operated a third time for the return of the disease after *x*-ray treatment, although the physician who had used the *x*-ray had said the patients were doing satisfactorily.

**Dr. J. Shelton Horsley** mentioned a case of cancer of the breast in which there was local recurrence after operation, and the patient was treated by the *x*-ray without benefit.

### Intestinal Cancer.

**Dr. J. G. Sherrill**, Louisville, Ky., in a paper on this subject, stated that cancer of the intestine, while rare, was more frequent than physicians were led to believe; that sarcoma was much less frequent than carcinoma, and selected especially the small intestine, while carcinoma most often attacked the large bowel. The appendix is the seat of both carcinoma and sarcoma, although occurring infrequently. The literature shows that men suffer from both forms oftener than do women. Adenocarcinoma is the type most frequently seen, while the round-celled sarcoma or the lymphosarcoma occurs oftenest. The author reported two cases. He said that the treatment was to be largely determined by the extent of the involvement. Resection of the intestine and extirpation of the growth offer the only hope of a permanent cure, and this chance should be taken as early as possible.

### Amputation of the Hip-Joint for Sarcoma, with a Report of Seven Cases Without Mortality.

Dr. Wm. B. Coley, New York, in a paper on this subject, said that the tumor originated in the bone or periosteum of the femur in 5 cases, and in the soft parts in 2. The age of the patients ranged between 6 and 56 years. In 6 cases Wyeth's pins were used, but the growth extended above Poupart's ligament and pins could not be used, so the external iliac artery was first tied. All of the patients made a good recovery from the operation, but only one patient survived operation long enough to be called a cure. This was a sarcoma of the thigh in which the mixed toxins of erysipelas and *Bacillus prodigiosus* were used for two months before amputation. In one recent case the patient was still alive without recurrence; in all the other cases death occurred from local or general recurrence in from four months to two years after amputation. Of 4 other cases of sarcoma of the femur and thigh, treated by high amputation, just below the trochanter, 2 patients died at the end of four months; 1 died at the end of two and a quarter years, and 1 had recurrence in the gluteal region, which disappeared under the mixed toxin treatment, and the patient is alive at present without recurrence, six years afterward.

The extraordinary malignancy of sarcoma of the femur was shown by the very small number of patients known to have survived for more than three years after amputation. He advised systematic use of the erysipelas toxin after primary amputation as a prophylactic against recurrence. He would not advise such treatment prior to amputation in sarcoma of the femur. on account of the great liability to early metastases.

The method advocated by Mikulicz, resection of the femur, Coley did not think should be adopted as a substitute for amputation, as there were no cases treated by this method that had been observed for longer than a year, hence nothing could be said as to permanent cure.

The *x*-ray, he believed, should never be used unless the patient absolutely refused amputation.

### Surgery of Urinary Tuberculosis in Women.

Dr. Guy L. Hunner, Baltimore, reported 35 cases occurring in the services of Dr. Howard A. Kelly and his associates in Baltimore. These patients were all women with an average age at the onset of symptoms of 28 years. The disease was unilateral in 31 of the cases, and it was probably primary in the kidney, as regards the urinary system, in 30 or more of the cases; 31 cases had bladder symptoms at some time in the course of the disease, although only 18 cases had bladder lesions at the time of operation; 11 of these 18 cases still had some bladder symptoms, and 5 were known to have bladder lesions, although 9 of the 11 had had systematic bladder treatment. Tuberculosis of the bladder does not heal with the ordinary methods of treatment, and if the disease persists a year and does not occupy more than half of the bladder, it should be excised. Of 22 ureters examined microscopically, 17 showed tuberculosis, while 5 were chronically inflamed. If a tuberculous ureter remained either in part or *in toto*, the wound usually remained open at least two years, while the removal of the ureter with the kidney resulted in rapid closure of the wounds. Five cases died, three after six and eleven weeks, and two years, respectively, from involvement of the other kidney, and two, in fifteen and six days, because of the operation. Sixty-six per cent. of the patients were enjoying fairly good or excellent health.

### Spurious Dysmenorrhea.

Dr. Henry T. Byford, Chicago, read a paper with this title in which he made a plea for more rational treatment. The absurdity of the nasal cure was emphasized and the cures referred to as spurious. The trend of the paper was to condemn writers for bringing the symptom into the foreground when it should be kept in the background, and for wasting their own time and that of their readers in ridiculous speculations.

### Memorial Address on Dr. W. E. B. Davis.

Dr. Richard Douglas, Nashville, Tenn., spoke eloquently of the work that had been accomplished by Dr. Davis, and pointed out in a masterly manner the distinguishing characteristics of the deceased.

### Diagnosis and Treatment of Congenital Misplacement of the Hip in Infancy.

Dr. Albert H. Freiberg, Cincinnati, had been able to ascertain that in several cases children with congenital misplacement of the hip had been late in walking, though they were able to stand at the usual age for walking. In some few instances mothers observed these things and possibly also that the apparent breadth of pelvis and perineum was unusually great. It was, therefore, urged that in the presence of any of these signs which had been referred to attention be paid to the possibility of congenital luxation, and that in the event of any doubt the *x*-ray be resorted to as a final means of precision. Experience has abundantly shown the feasibility of operative procedure after the age of one year, and that the results amply justify the great additional care which was necessary to prevent the dressings from becoming soiled in so young a patient.

### The Progress of Ureteral Surgery.

Dr. J. Wesley Bovée, Washington, D. C., president of the association, after referring to the deaths of Drs. W. E. B. Davis, George J. Engelmann, and J. McFadden Gaston, spoke on the surgery of the ureter, giving its history and present status. The *x*-ray is the simplest procedure for diagnosis of calculi, but it is not at all times reliable. For this reason especially other plans of examination should be employed.

In the treatment of ureteral calculi he advocated extraperitoneal ureterolithotomy, as infected urine was usually associated with this condition and easily produced peritonitis. If pus was not present, the establishment of ureterocutaneous fistula would seldom be necessary, though careful drainage of the wound would be advisable. The ureteral wound should be made longitudinally whenever possible, and sutured after lithotomy. If there was much necrosis of the ureter resection or exsection, with uretero-ureteral anastomosis or ureterocystostomy might be required. Frequently pyonephrosis accompanied calculous ureteritis. Incision and drainage, and probably nephrolithotomy would be needed in addition. For ureteral fistula nothing need be done unless obstruction of the duct below the fistulous opening existed. In such a case the caliber of the canal must be restored. In subcutaneous injury of the ureter, no treatment is advisable unless evidence of extravasation of urine or of ureteral obstruction exists. Abnormal ureteral terminations of congenital origin might be corrected by ureterocystostomy, usually by the vaginal route. In complete ureterectomy or nephro-ureterectomy in women probably the loin and vaginal incisions constitute the best plan.

*(To be continued.)*

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## THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Thirteenth Annual Meeting, held at Denver, Dec. 28 and 29, 1903.*

The Association met at the Brown Palace Hotel, under the Presidency of Dr. Alexander Hugh Ferguson of Chicago.

### Carcinoma of the Lung and Pancreatic Cyst.

Dr. W. W. Grant, Denver, reported two cases of carcinoma of the lung, and one of pancreatic cyst. He reviewed the literature, which shows convincingly that the disease is essentially surgical, and that delay in operating is as dangerous and fatal as in appendicitis. The suggestion in the treatment of the sac was to dissect it out if small, but in the case of a large sac this attempt is manifestly unsafe and dangerous. The extensive adhesions make it exceedingly difficult, and extravasation of pancreatic juice or septic material will probably destroy the patient. Patients have died from this treatment; while to attach the sac to the abdominal peritoneum, if not already adherent, and drain, is safe and undoubtedly the best treatment of a large cyst. Pancreatic juice out of its normal channel produces fat necrosis. Pancreatic disease often simulates intestinal obstruction, and the statement may be safely accepted that if the surgeon opens the abdomen and does not find obstruction or perforation of the stomach, but observes fat necrosis, the pancreas is, in all probability, the source of the trouble.

### DISCUSSION.

Dr. M. L. Harris, Chicago, spoke of the great value of colonic and systematic distention of the intestines. In going over the literature of pancreatic cyst he found that in 95 per cent. of the cases the transverse colon took a distinct circle below the tumor and the stomach above. There is practically no other tumor or cyst in which this relation is found.

Dr. Grant said several writers had considered the differential diagnostic point mentioned by Dr. Harris, but when it was remembered that cases of pancreatic cyst were more frequent in very fat subjects, and that there was very uniform distention of the intestines, the stomach not being so much distended because of the pressure of the tumor, or, if so, it was entirely out of its normal location, it was difficult, if not impossible, to isolate the transverse colon and the stomach. He had never succeeded in getting any benefit from artificial distention in other cases, although he did not try it in this case.

## Accidental Perforations of the Uterus.

Dr. D. S. Fairchild, Des Moines, Iowa, said that the use of the sound and the curette in gynecologic practice was probably the most frequent cause of this accident in legitimate practice. The facility with which the sound can be used in exploring the interior of the uterus and in replacing a retrodisplaced organ is no doubt responsible for some of these accidents. The curette, however, is often used in an indiscriminate manner and as a routine treatment in a great variety of uterine difficulties that can be better treated by other means with a greater prospect of permanent results.

### DISCUSSION.

Dr. Donald Macrea, Council Bluffs, Iowa, mentioned a case in which the upper part of the cervix was perforated by a modified Goodell dilator in the hands of a young practitioner, and a portion of the intestine pulled through the opening and pulled off.

Dr. H. G. Wetherill, Denver, said the great dangers associated with the use of the curette were beginning to be appreciated both by the profession and laity, not only in the hands of the inexperienced, but in the hands of experts. He detailed a case which illustrated the ease with which the uterus could sometimes be perforated. A woman attempted to induce abortion by inserting an umbrella ring into the uterus; this went through the posterior vaginal wall, perforated the liver and the diaphragm, and was found in the right pleural cavity.

## Symposium on Gastric Ulcer.

Dr. H. D. Niles, Salt Lake City, Utah, presented the following conclusions: 1. Postmortem statistics, clinical experience and recent operating-room observations all tend to confirm the belief that neither the frequency nor the grave importance of gastric ulcer is fully appreciated by the profession generally, and the majority of cases are not recognized as such in life. 2. An earlier and more positive diagnosis means greater alertness in our observation and interpretation of symptoms, and more frequent exploratory operations. 3. In the history of every benign or malignant ulceration situated in a safely accessible region, there is always a time when the pathology can be corrected or favorably modified by appropriate mechanical means. 4. The recognized indications for operative procedures in gastric ulcer have been the symptoms produced by the remote resultant pathology, as hemorrhage, perforation, pyloric obstruction, cancer, etc., but our aim should be to make an earlier diagnosis and by timely and rational treatment prevent these later and more serious manifestations. 5. Taking into stricter account the local etiologic factors will undoubtedly aid us in the prevention, diagnosis and treatment of gastric ulcer. 6. The causative pathology deserves more consideration in the surgical treatment than it has yet received. 7. Perforation always demands the promptest surgical interference. 8. Hemorrhage from gastric ulcer is best treated by gastrojejunostomy. 9. Open or cicatrized ulcers near the pylorus always indicate rest for the parts and a sufficient outlet for the stomach contents. 10. A posterior gastrojejunostomy with sutures gives a minimum risk and the most satisfactory results, and hence is usually the operation of choice. 11. Our future advancement in the treatment must come from an earlier recognition and better understanding of the antecedent coexisting and resultant pathologic processes rather than from any further refinements in operative procedures.

### ETIOLOGY, SYMPTOMATOLOGY AND DIAGNOSIS OF GASTRIC ULCER.

Dr. Frank C. Davis, Des Moines, Iowa, said that clinically and pathologically gastric ulcer might be classified as acute, acute secondary and chronic. Each classification was expatiated on. Hematemesis is a sign of such unmistakable value that one only needs to exclude a few other sources for the blood to establish a diagnosis by it alone. The symptoms were detailed.

A conservative estimate of perforation places it at about 5 per cent. It occurs most frequently in females.

### PERFORATING GASTRIC ULCER.

Dr. Archibald MacLaren, St. Paul, Minn., said that perforating gastric ulcer was fully as common as extra-uterine gestation, and that when the eyes of physicians were opened to this fact, they would be able to see them, diagnose them early, and save many lives that were now lost. In this country he did not believe that the perforation cases reached the hospitals as often as they did abroad. His experience led him to believe that Dr. Richard Harte was correct when he said that rigidity or tension of the abdominal muscles was the keynote to the early recognition of peritoneal perforation from whatever source. The pain might subside, the temperature might not be elevated, but the rigidity continued even up to the end. He believed that many cases could be correctly diagnosed, as was proved by a few cases which he reported, and by the many cases which were constantly being published in the journals. He detailed three cases.

### DISCUSSION ON GASTRIC ULCER.

Dr. Charles W. Oviatt, Oshkosh, Wis., mentioned the case of a man, 62 years of age, a laborer, who had never complained of any symptoms of gastric ulcer. He had eaten a hearty meal, laid down on the lounge feeling perfectly well shortly after, but within an hour he rolled over on to the floor with agonizing pain. A physician was called, who gave large doses of morphin hypodermically, without any benefit, and the patient died within a few hours. Postmortem examination revealed a perforating ulcer in the posterior wall of the stomach, which seemingly had attempted to heal. There was no blood in the stomach, but the abdominal cavity was filled with stomach contents.

Dr. B. B. Davis, Omaha, said that stagnation accounted practically for a large proportion of cases, and without it there was no ulcer.

Dr. Leonard Freeman, Denver, detailed a case he observed some time ago, in which perforation occurred early in the morning, but rigidity of the muscles of the abdomen did not follow until 2 o'clock in the afternoon. This caused failure to recognize the case, and operation was done too late.

Dr. Charles H. Mayo, Rochester, Minn., said that after examining 1,100 stomachs by test meals, laboratory testing and physical examination, anemia was a very important factor; next, long-continued neurasthenic symptoms. Welch also found in an examination of 788 cases of ulcer of the stomach that only 28 occurred in the greater curvature, so that the greater proportion of them were found in the pyloric end of the stomach. Of cases of cancer of the stomach, Dr. Mayo had elicited a history of chronic ulcer covering a period of from one to fifteen years. His statistics showed 88 per cent. of gastric ulcer, and 12 per cent. of duodenal ulcer. The tendency was more and more to class the first two and a half inches of the duodenum as a part of the stomach. In 31 cases of acute perforation of the stomach and duodenum, 11 occurred in the duodenum in this first two and a half inches, and he had operated on 26 cases of ulcer of the duodenum.

Dr. M. L. Harris, Chicago, said the extensive experimental work of Fütterer showed it was impossible to produce gastric ulcer in an animal until the hemoglobin of the blood had been reduced below a certain point; that all lesions of the mucosa produced in healthy animals readily healed. When the hemoglobin is reduced below a certain point, producing a marked anemia, then these lesions develop into typical ulcers. These observations show the importance of an examination of the blood in these cases. The examination of the feces may show hematin crystals—a means of diagnosis in obscure cases.

### Symposium on the Treatment of Hematemesis by Gastro-enterostomy.

Dr. F. Gregory Connell, Leadville, Colo., classified the operative treatment of hematemesis into direct and indirect. Under direct he included (1) excision of the ulcer; (2) partial gastrectomy or pyloroplasty; (3) ligation of the principal artery; (4) cauterization or curettage of the ulcer; (5) ligation of the mucous membrane, and (6) ligation of all coats. Under the indirect he mentioned (1) gastro-enterostomy; (2) pyloroplasty, and (3) gastrotomy. The direct methods are not in common use, because of such objectionable features as the difficulty of locating the ulcer, the fact that the lesion is frequently multiple, the presence of firm and complicating adhesions, and the indistinct limitations of the pathologic tissue. The high mortality rate of some and the impracticability and unreliability of others have caused a general turning to the indirect method, as exemplified by gastro-enterostomy. The manner in which a gastro-enterostomy allows an ulcer to heal is well understood and practically settled, but as to this same operation acting as a hemostatic measure, no such substantial reasons as those advanced for the healing can be presented. While rest and drainage undoubtedly favor clotting and the cessation of hemorrhage from small blood vessels, it is difficult to understand how they can arrest hemorrhage from a large artery with a lateral opening.

Gastro-enterostomy is indicated in hematemesis (1) after a thorough search has failed to reveal the source of the hemorrhage: (2) where the source of the bleeding is discovered, but in such condition as to make direct treatment impracticable or impossible.

#### TWO CASES OF ACUTE HEMATEMESIS IN WHICH GASTRO-ENTEROSTOMY WAS PERFORMED.

Dr. Leonard Freeman, Denver, detailed two cases in which he performed posterior gastro-enterostomy, using the Murphy button. In one recovery was uninterrupted, but death followed recurrence about seven months later. In Case 2 the stomach showed no external sign of ulcer, and no internal exploration was attempted. The organ was markedly dilated with gas and fluid. Reaction from the operation was so satisfactory that hopes of recovery were entertained; but in spite of no recurrence of the hemorrhage, death occurred at the end of fifty hours, due apparently to the great loss of blood. Autopsy revealed an ulcer as large as a watermelon seed on the posterior wall, at the junction of the lower with the upper two-thirds of the stomach. A small atheromatous artery, plugged by a thrombus, could be seen in the floor of the ulcer.

#### DISCUSSION.

Dr. H. D. Niles believed that in cases of acute hematemesis any operative procedure would be attended with a high mortality. It was difficult to diagnose gastric ulcer from the external appearance of the stomach with sufficient accuracy to deal directly with it, at least, to determine on an operation. Gastro-enterostomy was not, in his opinion, an infallible remedy for the treatment of gastric hemorrhage. Unless one knew positively the source of the hemorrhage before opening the stomach, he thought it was better to perform the operation before hemorrhage was dangerous.

Dr. James E. Moore said the treatment of gastric hemorrhage by gastro-enterostomy at the present time was more or less empirical. The profession had not arrived at that point when positive statements could be made as to its value. The past history of cases showed that a considerable proportion of them not only recovered from immediate hemorrhage, but permanently without operation.

Dr. O. Beverly Campbell, St. Joseph, Mo., said, in regard to the closure of the opening made in gastro-enterostomy by the suture method, he had performed sixteen experiments on dogs. In 12 he used the Kocher method of suturing, and in all of them he did an anterior gastro-enterostomy. The opening in each instance was large. The dogs were reoperated on at periods of from three to six months, and at the end of three months in six cases the opening was reduced to such an extent that the index finger could not be passed through it without a little force. In six of the cases there was almost total obliteration of the opening at the end of six months. In four there was a slight opening through which only a small probe could be passed. A vicious circle was established in 40 per cent. of the cases. These experiments showed a tendency, where there was no obstruction at the pylorus, for the opening to close, whether it was made with the Murphy button or by the suture method. A larger opening was obtained if the Connell suture or the Kocher suture was used, and in every case the speaker made a rather large opening. Six dogs, in which a vicious circle was established, began to fail in flesh at the end of about two months, and at the end of the third month they were opened and a vicious circle found. In every instance there was more or less narrowing of the opening.

Dr. Charles H. Mayo reported a case in which gastro-enterostomy failed to arrest hemorrhage. During the past year he operated on a man, 40 years of age, who gave a history, extending over a few years, of occasional stomach disturbance and vomiting of blood. By the laboratory test a little blood was found in the stomach. At the operation, in examining the stomach, he did not find any external evidence of the ulceration. The stomach was dilated. He did a gastro-enterostomy, but there was more hemorrhage after it than before, and the man died at the end of four days. He was very anemic at the time of operation. At the autopsy the intestines were found filled with blood. The gastro-enterostomy was a posterior one, after the Mikulicz method, and the line of suturing was perfect. There were no large ulcers in the stomach, but there were two or three points of erosion.

Dr. D. S. Fairchild said a distinction should be made between chronic gastric ulcers which bled and fissure ulcers which sometimes gave rise to profuse hemorrhage. The chronic ulcers could be treated by gastro-enterostomy, but in fissure ulcers, where the hemorrhage was considerable, gastro-enterostomy was not sufficient, and it became necessary to dissect the ulcer out. A case was narrated in point.

Dr. Connell had had recently three cases of acute hematemesis under observation. One bled very profusely. Operation was advised, but refused, and it was thought the patient would die. But she recovered. There were no signs of ulcer. The second case was that of a child, four years of age, who had acute hematemesis. Operation was refused, and the child died. The third case he operated on, having in mind Moynihan's advice, that it was unnecessary to search for the bleeding point, as gastro-enterostomy would cause a cessation of the hemorrhage. He operated, but the patient died. From the postmortem examination in this case he felt confident that had he made a careful examination of the stomach with the object of finding the bleeding point, he would have found it, and had the ulcer been dissected out, in all probability the patient would have recovered.

Dr. Freeman said there were two kinds of cases on which the surgeon had to operate: First, those in which the surgeon could take time and search for the ulcers; and if he found them, he could deal with them accordingly. The other class was illustrated by the two examples cited in the paper.

*(To be continued.)*

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## Therapeutics.

**[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]**

### Scrofula.

In the treatment of scrofula, so states the *Med. Press*, cod-liver oil should be given during the winter months if the stomach can retain it. In the summer, the syrup of the tannate of iodin or the following may be given:

| | | | | |
|---|---|---|---|---|
| ℞. | Calcii iodidi | ʒiss | 6 | |
| | Aq. calcis | ℥ii | 60 | |
| | Aq. menth. pip. | ℥iv | 120 | |

M. Sig.: One teaspoonful in a small amount of water twice daily after a meal.

Every second day a bath should be taken, the water containing sodium bicarbonate two ounces (60.) and sodium chlorid thirty-two ounces (960.). The body should receive a thorough rubbing daily, after which the following should be applied:

| | | | | |
|---|---|---|---|---|
| ℞. | Eau de cologne | | | |
| | Spts. lavendulæ, āā | ℥iii | 90 | |

M. Sig.: To be rubbed thoroughly over the body.

The diet should be rich in fats and phosphates. Consequently the patient's food should consist mainly of milk, eggs, farinaceous compounds, meat, chicken and dry vegetables. The country and seaside are better locations for these cases.

### Neurasthenia.

In the *Med. Press*, M. Albec outlines the following treatment of neurasthenia: Suppress as much as possible the cause of the nervous exhaustion by withdrawing the patient from all business and enjoining strict rest of mind and body. He should be instructed to retire early and rise late. Every third day a bath should be ordered lasting for fifteen minutes, followed by a massage; this may be alternated with static electricity, placing a negative pole in communication with the patient.

As general tonics the following combinations are recommended by the author:

| | | | | |
|---|---|---|---|---|
| ℞. | Tinct. nucis vom. | | | |
| | Tinct. conine, āā | ʒi | 4 | |
| | Tinct. calumbæ | | | |
| | Tinct. gentianæ, āā | ʒiss | 6 | |
| | Essentiæ anisi | m. x | | 65 |

M. Sig.: Twenty drops in water before each meal.

During the meal, or following it, a combination similar to the following is recommended taken in wine:

| | | | | |
|---|---|---|---|---|
| ℞. | Strych. arsenatis | gr. 1/60 | | 001 |
| | Calcii glycerophos. | gr. v | | 30 |
| | Syr. aurantii | ʒi | 4 | |

M. Sig.: At one dose in a wineglassful of wine after each meal.

### Sodium Sulphanilate in Exophthalmic Goiter.

Kirnberger, according to an abstract in the *N. Y. and Phila. Med. Jour.*, recommends the sodium salt of sulphanilic acid in the treatment of exophthalmic goiter. He treats it in this manner on the hypothesis that the disease arises from an excessive production of iodothyrein by the thyroid gland. The preparation may be given in one of the following forms:

| | | | | |
|---|---|---|---|---|
| ℞. | Acidi sulphanil. | ʒi-ʒiss | 4-6 | |
| | Sodii carb. | ʒi | 4 | |
| | Aq. destil. | ℥ix | 270 | |

M. Sig.: From three to five dessertspoonfuls daily; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Sodii sulphan. | ʒi-ʒii | 4-8 | |
| | Aq. destil. | ℥ix | 270 | |

M. Sig.: Six dessertspoonfuls daily.

According to the author this preparation produces rest and vigor and causes the patient to increase in flesh, and it very perceptibly diminishes the tachycardia.

### Heroin to Relieve Cough.

The following combination containing heroin is recommended by Haas and de Santos in *Buffalo Med. Jour.* for the relief of cough:

| | | | | |
|---|---|---|---|---|
| ℞. | Heroin hydrochlor. | gr. 1/16 | | 004 |
| | Ammon. hypophos. | gr. iii | | 20 |
| | Balsami tolutani | gr. iv | | 25 |
| | Ext. hyoscyami. | gr. i | | 06 |
| | Glycerini q. s. ad | ʒi | 4 | |

M. Sig.: To be taken at one dose and repeated every two, three or four hours.

They recommend it in the treatment of pertussis, pulmonary tuberculosis, asthma and in acute bronchitis.

### Local Anesthesia of the Pharynx and Larynx in Tuberculosis.

According to Pollatschek in *Internat. Med. Mag.*, changes in the upper-air passages, especially those in the larynx, are important factors in pulmonary tuberculosis. In his opinion the cause of the cough in tuberculosis can be found in the upper-air passages in fully 70 per cent. of the cases. He has employed, in a great many cases, anesthesin locally for the relief of the conditions in those passages, and with very satisfactory results. He uses the following emulsion injected directly into the larynx or in the form of an inhalation:

| | | | | |
|---|---|---|---|---|
| ℞. | Menthol | gr. xxiiss | 1 | 50 |
| | Pulv. gummi arab. | | | |
| | Ol. amygd. dulcis. | | | |
| | Aquæ destil, āā | ʒiiss | 10 | |
| M. | Ft. emulsio; add: | | | |
| | Anesthesini | gr. xlv-ʒi | 3.-4 | |
| | Spts. vini conc. | ʒx | 40 | |
| | Aq. destil. | ℥ii | 60 | |

M. Sig.: Inject into the larynx.

The anesthetic effect lasts from three to thirty hours, and in some cases longer, and no symptoms of intoxication have been noticed.

The following combination containing anesthesin may be employed as an inhalation:

| | | | | |
|---|---|---|---|---|
| ℞. | Anesthesini | gr. xlv | 3 | |
| | Spts. rectif. | | | |
| | Aq. destil., āā | ℥ii | 60 | |

M. Sig.: As an inhalation.

For local application to the pharynx the following is serviceable:

| | | | | |
|---|---|---|---|---|
| ℞. | Anesthesini | ʒii | ·8 | |
| | Mucil. acaciæ | ʒiv | 15 | |

M. Sig.: To be painted on the painful areas by means of a swab.

To relieve the pains caused by external wounds on different parts of the body, such as by burns, etc., anesthesin is said to be of value applied in the form of an ointment:

| | | | | |
|---|---|---|---|---|
| ℞. | Anesthesini | ʒi-ʒii | 4-8 | |
| | Lanolini | | | |
| | Liq. petrolati, āā | ℥i | 30 | |

M. Ft. unguentum. Sig.: Apply locally; or it may be used as a dusting powder as follows:

| | | | | |
|---|---|---|---|---|
| ℞. | Anesthesini | ʒi | 4 | |
| | Bismuthi subgal. | ʒiss | 6 | |
| | Pulv. amyli | ℥ss | 15 | |

M. Sig.: Apply locally as a dusting powder.

Dr. E. Fletcher Ingals, after using this preparation a satisfactory length of time, states that the anesthetic effects produced on unbroken membranes are slight, but it has proved to be of benefit as an anesthetic on the broken surfaces, after cauterizations of the nose and tonsils.

### Methylene Blue in Insomnia of the Insane.

After studying the effects of methylene blue in several cases, including the various psychoses of the insane, Zaitzer and Taporkov, in *Merck's Archives*, states that this preparation is not only a sedative in maniacal excitement, but is also a good hypnotic in insomnia without maniacal excitement. It is superior to other hypnotics in being free from after-effects. They administered it hypodermically in doses ranging from grain one half (.03) to grains two (.12) or per os in three-grain (.20) doses three times a day, combined with pulverized myristica.

### Scabies.

The following formula is recommended by Fournier in the treatment of scabies:

| | | | | |
|---|---|---|---|---|
| ℞. | Potass. carb. | ℥ss | 15 | |
| | Sulphuris sublim. | ℥iss | 45 | |
| | Mucilaginis tragacanthæ | gr. viii | | 50 |
| | Glycerini | ℥iiiss | 100 | |
| | Essentiæ menth. pip. | | | |
| | Essentiæ lavendulæ, āā | m. x | | 65 |

M. Ft. unguentum. Sig.: Apply locally night and morning.

The following combinations are also of service in the treatment of scabies:

| | | | | |
|---|---|---|---|---|
| ℞. | Sulph. precip. | ℥ss | 15 | |
| | Naphthol resublim | ʒss | 2 | |
| | Lanolini | | | |
| | Liq. petrolati, āā | ℥ss | 15 | |

M. Ft. unguentum. Sig.: Apply locally twice daily; or:

| | | | | |
|---|---|---|---|---|
| R. | Menthol | gr. xx | 1 | 30 |
| | *Adipis benzoinati* | ℥ss | 15 | |

M. Ft. unguentum. Sig.: Apply locally night and morning.

Hyde recommends that one of the following combinations be substituted for the ordinary sulphur ointment in the treatment of scabies:

| | | | | |
|---|---|---|---|---|
| ℞. | Liq. styracis | ʒi | 4 | |
| | Liq. petrolati | | | |
| | Ol. olivæ, āā | ℥ss | 15 | |
| | Balsam. Peruv. | ʒiiss | 10 | |
| | Spts. sapon. viridis | ʒv | 20 | |

M. Ft. unguentum. Sig.: Apply locally; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Potass. sulphuret. | ʒiiss | 10 | |
| | Saponis alb. | ʒx | 40 | |
| | Ol. olivæ | ʒii | 8 | |
| | Ol. thymi | m. viii | | 50 |

M. Ft. unguentum. Sig.: For local application.

### Prurigo Gravis.

The following combination is recommended by De Beurmann in *Rev. Fran. de Med.* as of value in the treatment of prurigo Hebræ:

| | | | | |
|---|---|---|---|---|
| ℞. | Pulv. camphoræ | | | |
| | Picis liquidæ, āā | ʒi | 4 | |
| | Sulphuris | gr. xl | 2 | 65 |
| | Olei gynocardiæ (chaulmoogra) | m. xv | 1 | |
| | Liq. petrolati | ʒv | 20 | |

M. Ft. unguentum. Sig.: To be applied locally.

## Medicolegal.

**Physicians Only May Complain of Discriminations.**—The Court of Civil Appeals of Texas, in the case of Sweeney vs. Webb, wherein the validity of the local option law was assailed, says that one of the contentions was that the act denied equal protection of the law, and was therefore unconstitutional, because one section forbids the prescribing of intoxicating liquors by any one who does not follow the practice of medicine as his principal and usual calling. But the court says that the only discrimination shown was between physicians who practice medicine occasionally and those who make it their principal calling, and since the parties suing were not physicians, they could not successfully complain of that clause.

**Privilege Does Not Cover Prescriptions and Druggists.**—The First Appellate Division of the Supreme Court of New York says that, in the personal injury case of Deutschmann vs. Third Avenue Railroad Company, the company called as a witness a druggist, who testified that he knew the party suing, that he had filled prescriptions for her, identified the prescriptions made by a physician who had treated her, and stated that he had filled them for her. The prescriptions were then offered in evidence, and the party objected to them on the ground that they constituted a confidential communication of the physician who gave them, and were therefore inadmissible in evidence; and such objection was also urged to the testimony given by the witness. These objections were overruled, and the evidence given by the witness was received, as were also the prescriptions. In holding that there was no error in this the court says that it is to be borne in mind that at common law the mouth of the physician was not closed as to any matters which were pertinent and competent on the issue, the subject of investigation. And it is always competent for the patient himself to make disclosure of any matter which has been communicated by the physician. The prohibition of the statute relates to the physician alone. It is his mouth that is closed. And the physician's mouth is only closed as to communications necessary to enable him to act in a professional capacity toward the patient. The necessity of having physicians' prescriptions filled by druggists may furnish a reason for the legislature to say that public policy will interpose to prevent them from making disclosures of the information thus obtained, but it is enough now to say that the statute in question has no application to such a situation. Having parted voluntarily with the prescriptions by delivery of them to a third person, the party suing could not exclude the testimony offered from such a source. Therefore, no error was committed in receiving in evidence the testimony of the druggist, and accompanying the same with the prescriptions which the party suing had delivered to him. Undoubtedly the mouth of the physician would be closed, as he could at no time either authorize another to disclose, or disclose himself, any communications made to the party suing, whether oral or written. His certificate filed in a public office pursuant to the requirements of a statute may not be given in evidence, and is within the prohibition of the statute, as it remained at all times his communication of matter which he received in a confidential capacity, and is therefore inadmissible. But that rule was without application here, for the evidence was of a disclosure made by the party suing of the physician's communication to a third party, and that, being her voluntary act, authorized proof of the matter disclosed. Evidence from experts to show that the prescriptions called for specifics for syphilis was also competent for the same reasons. The party suing having refused to waiver her privilege and permit a physician to testify, the court thinks, in view of the fact that the statute is silent on the subject, that the jury were not precluded from considering the entire attitude of the party, and drawing such inference therefrom as was fairly deducible from the situation which had been created.

**Validity of Contract Not to Practice in Certain Place.**—In the Illinois case of Ryan vs. Hamilton, it appeared that the party sued, a physician, signed a contract agreeing never, either separately or as one of a firm, to practice general medicine in or within eight miles of a certain place, without the consent of the other party, while the latter practiced in said place or within eight miles thereof (unless forced to by some unforeseen circumstances, in which case he agreed to pay the other party a reasonable sum). The Supreme Court of Illinois says that the principles of law applicable to this case are the same as those governing the specific performance of contracts in restraint of trade. That contracts in general restraint of trade are generally held to be illegal is beyond controversy. But the rule admits of well-defined exceptions, among which are such contracts as in this case. Contracts of this class, where the limitation as to territory is reasonable, and there exists a legal consideration for the restraint, are valid and enforceable in equity, and in such cases relief by injunction is customary and proper. In all such cases it is not the business of a court to inquire whether the consideration is adequate, or of equal value to that which the party loses by the restriction; it is impossible for courts to tell how valuable to the complainant or how injurious to the defendant may be the restraint sought. It is sufficient to uphold such contracts if the court concludes that there is some legal consideration; but the adequacy of the consideration is within the exclusive dominion of the parties where they contract freely and without fraud. In this case the consideration for the contract appeared to be the purchase from a partner of the physician signing the contract certain personal property of the former, which the firm had used in and about their practice, so that the signer of the contract might be enabled to carry out a purpose he had of becoming a specialist and re-entering into business with his former partner. The court holds that it could not be reasonably contended that there was no consideration though the signer received no money. Moreover, the court thinks it sufficient that the injured party showed that the signer of the contract returned and engaged in practice after making an effort to form a partnership with him and an effort to purchase his (the injured party's) business, and, if there was anything other than the ordinary business motives that prompted the signer of the contract, it was the latter's duty to have disclosed it, to be protected by the provision excusing him if forced by some unforeseen circumstances. Nor does the court consider this provision too indefinite to permit of the enforcement of the contract. It says that in interpreting such writings it is the duty of courts to give them a reasonable and sensible construction, and, as far as may be, carry out what was the intention of the parties. The modern trend of the law has been to recognize a person's property right in the good will of a business built up by him, and the tendency is to remove the restrictions formerly placed on its sale. And, according to well-established rules of law in this and other states, the court regards the restrictions imposed by the contract in this case as reasonable.

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below

### Medical Record, New York.

*December 26.*

1 *Tumors of the Ponto-Medullo Cerebellar Space. Acoustic Neuromata (Central Neurofibromatosis) Joseph Fraenkel and J. Ramsay Hunt.
2 *The Present Status of the Treatment of Lateral Curvature Jacob Teschner.
3 *Intestinal Fermentation as It Interests the Surgeon. Robert T. Morris.
4 *Submucous Resection of the Nasal Septum. Felix Cohn.

1. **Tumors of the Ponto-Medullo-Cerebellar Space.**—This condition is not a rare one according to Fraenkel and Hunt. The underlying active factor in all the cases is a teratologic one. Five cases are reported; the symptomatology is that of tumor of the posterior fossæ of the skull preceded by symptoms referable to disease of the fifth and eighth nerves. The cases all show the common origin from the cranial nerve trunks. Pathologically they are neurofibromata, pure or in various stages of metamorphosis and transformation. The locality is in all forms similar—the angle formed by the junction of pons, medulla and cerebellum; symptomatically analogous. The authors remark that the certainty of locality, the essentially benign nature of the growths and their loose attachment, make them favorable ones for surgical interference.

2. **Lateral Curvature.**—Teschner criticises the authorities for their neglect of his method of gymnastics in the treatment of lateral curvature, and calls the attention of physicians to the necessity of carefully and understandingly examining cases of faulty posture and gait and the advisability of proper treatment. He explains the difference between his system and ordinary gymnastics, and the proper learning and directing of them.

3. **Intestinal Fermentation.**—The surgical factors in intestinal fermentation are noted by Morris, who includes among them intestinal adhesions, especially about the appendix and cecum. He remarks that we are apt to overlook other adhesions such as those about the sigmoid and gall bladder which are also of importance. Normal involution of the appendix is also a cause of intestinal fermentation in his opinion. Reflex irritation from contraction of the connective tissue and injuring of the terminal filaments of the entrapped nerves is liable to produce such disorders. Still other causes are loose kidneys, and he credits a large group of cases of intestinal fermentation to eyestrain. Those who have suffered from chronic constipation since childhood he thinks are victims to the presence of hypertrophied rectal valves. In conclusion he remarks that he is curious to know what proportion of intestinal fermentations are really medical cases, and not curable by surgical resources.

4. **Submucous Resection of the Nasal Septum.**—The method recommended by Cohn is that of submucous resection, the operation of which is described. He uses a weak cocain solution and adrenalin in most of his cases, and usually places his patient on his back with head slightly raised and chin depressed, the head slightly turned away from the deviated side, the nostrils being held back by retractors. A slightly convex incision is made through the whole length of the mucous membrane as near to the point of greatest convexity as possible, and only through the membrane. The mucous membrane is then held back with a small, sharp hook and the cartilage, after being as much exposed as possible, is nicked and gradually separated from the mucosa of the opposite side. After it has been as fully freed as it can be, care being taken not to dislocate it, an incision is made parallel to the ridge of the nose, in order to prevent external deformity, and a second incision made below and the cartilage finally dissected out posteriorly. The first piece usually embraces the greater portion of the protuberating cartilage. The still projecting pieces must be removed seriatim, working from before backward, if necessary even removing the bony portion with small bone forceps. An occasional reversing of the mucous membrane is the best guide as to the amount to be removed. After the cartilage has been removed the mucous membrane is carefully replaced, and, if required, one or two sutures may be added. The nares are then lightly packed with gauze and the patient kept in bed for a day or two with ice applications over the nose and a change of dressing every twenty-four hours for two or three days. After that no further treatment is usually required except an ointment or spray to prevent the formation of crusts. Of course those cases that can be operated on by simpler measures with the knife, saw, chisel, or drill, for instance, should be excluded. The results of submucous resection are uniformly excellent. After-treatment is unnecessary.

### New York Medical Journal.

*December 26.*

5 *The Etiology of Bronchopneumonia. Lewis A. Conner.
6 *The Point of Election in Tuberculosis. J. O. Cobb.
7 *Accidents and Complications Following Operations on the Nose and Throat. Justus Sinexon.
8 *Fat Necrosis and Report of a Case.* V. B. Jackson.
9 *Laryngeal Complications in Typhoid Fever. Report of a Case. Tracheotomy. Recovery. Homer Dupuy.
10 *A Device for the Prevention of Premature Baldness. John Gilbert.
11 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.
12 Delayed Secondary Hemorrhage Following Amygdalectomy: Report of Two Cases. Richmond McKinney.

5. **Bronchopneumonia.**—Conner discusses some of the forms of bronchopneumonia, noticing the general predisposing causes, of which he puts age among the first, the season, in which it seems to follow the same rule as lobar pneumonia, and the previous condition of health, which is exceedingly important. Of secondary bronchopneumonia measles is usually the first associated cause, but influenza, diphtheria and scarlet fever as well as bronchitis of children are to be mentioned. As a complication of debilitating disease it is especially seen in old age, though it may occur at other ages. Aspiration pneumonia is common in conditions of stupor and unconsciousness, when sensibility of the larynx is reduced, or swallowing is difficult, and irritating matter passes down the wrong way. The bacteriology is discussed at length. In about 50 per cent. of the cases of primary bronchopneumonia, the pneumococcus is found

either alone or in conjunction with other germs, most commonly streptococci. Next in frequency comes the streptococcus, and after that the pyogenous staphylococci, Friedreich's bacillus, the influenza bacillus, etc. In secondary bronchopneumonia, the bacterial list includes the same forms, together with others, such as those of diphtheria, typhoid and the *Diplococcus meningitidis*, etc. While the pneumococcus is the one perhaps most frequently found, it is much less common than in primary cases, and recent researches have shown the pure culture of diphtheria, influenza and other bacteria in cases following those disorders. In typhoid bronchopneumonia, the typhoid bacillus does not seem to be found in the lungs as a rule, and the disease from this cause is apt to be a secondary or heterologous infection, as infection through the air-passages by the typhoid bacillus is very unlikely. In tuberculous bronchopneumonia the pneumococcus seems to be frequently found. It appears to be the belief of many that the tubercle bacillus is responsible only for the caseation which follows the infection and that the pneumococcus or streptococcus is the active agent. In bronchopneumonia following conditions other than the infectious diseases, the streptococcus and staphylococcus have been found, and the bacillus coli in a small percentage of cases. The significance of this latter seems to be that it indicates only a postmortem or at most an agonal invasion and is not a causal agent. Other micro-organisms than bacteria may occasionally be associated with bronchopneumonia, such as streptothrix. The question whether or not the bronchi in health contain bacteria has not been definitely settled, the weight of evidence seems rather to be against it. It seems probable that such germs are usually absorbed by epithelial cells and destroyed. They may, however, under abnormal conditions find congenial soil in the bronchial tubes.

6. **Tuberculosis.**—Cobb discusses the reasons why the apices of the lungs are most frequently the primary seat of tuberculosis. He concludes that the germs are taken in through the blood current, and that the constant deposit in the apices of the lungs lies in the fact that the pressure from the front by the great veins and lymph vessels in the angles of the neck causes enough suction to create a counter lymph current and an area of lymph stasis in the apices of the lung where a bacillus will become much more quickly arrested.

7. **Nose and Throat Operations.**—Sinexon calls attention to the need of caution in nose and throat operations and enumerates from the literature many cases where serious and even fatal accidents have followed trifling operations on the nose and throat. The possibility of fatal hemorrhage is to be considered in these cases. Even epistaxis has been known to be fatal. In intubation, too, the possibility of the membrane extending further down the trachea than the length of the tube employed, and being pushed down below it is a thing to be thought of. It is imperatively necessary that one should be prepared to perform tracheotomy in all cases where intubation is employed.

9. **The Laryngeal Complications of Typhoid.**—After a detailed discussion of the subject and a report of cases, Dupuy concludes that the 256 collated cases, reported in the last fifty-eight years, which for evident reasons are only approximately correct, afford eloquent proof that the subject of typhoid affections in the larynx calls for general recognition.

> Evidence, bacteriological and clinical, strongly supports the view adopted by the majority of observers, that the laryngeal involvement in most instances is a direct typhoid infection.
>
> A high death rate, as shown by statistics, when this complication exists, teaches the salutary lesson of always examining the larynx when the danger signals of hoarseness, dyspnea or dysphagia set in.
>
> The favorable results which follow operative interference offer such a contrast to the high mortality without operation that there can be but unanimity of opinion as to its propriety.
>
> Tracheotomy is the most approved, because in most cases the only possible surgical procedure which can save life.

10. **Baldness.**—The cause of baldness is attributed by Gilbert to tight hatbands. He remarks that women and savages do not suffer from the condition, and suggests the use of small cork fenders around the hatband, avoiding pressure to certain parts or sections, leaving the intervening space free for normal blood supply and free ingress and egress of air from the hat chamber above. This would, of course, require a little larger hat than usually worn, but no larger than is demanded by the ordinary corrugated sweatband.

11. **Typhoid Fever.**—Bass has used castor oil in typhoid fever in a large number of cases and finds that it has a valuable influence on the condition of the bowels, preventing diarrhea and also controlling the temperature by preventing the absorption of poisons from the undigested, decomposing bowel contents. It is better than other purgatives for it goes through the bowels unchanged and disturbs the patient least. The method he thinks best is to begin with a dose of pure castor oil every twelve hours, regardless of the stage of the disease. The dose should be so regulated as to cause one or two actions, varying from one to eight drams, depending on the patient, the stage of the disease and the condition of the bowels. He continues it through the whole disorder.

### Boston Medical and Surgical Journal.

*December 24.*

13 The Responsibility of the Medical Examiner. Herbert Parker.
14 *Diffuse (Combined) Degeneration of the Spinal Cord. E. W. Taylor and G. A. Waterman.
15 *Historical Notes on the Laws Governing Civil Malpractice in the Ancient Times and the Middle Ages. Charles Greene Cumston.
16 The Bitzer Homicides. George P. Twitchell.
17 *Malaria and Mosquitoes of Worcester. A Year's Observations on the Habits of Culex and Anopheles. (Concluded.) William W. McKibben.

14. **Diffuse Combined Degeneration of the Spinal Cord.**—Two cases of this syndrome are reported by Taylor and Waterman, the first showing marked arteriosclerosis in the brain—internal capsule, diffuse quasi-systemic degeneration of the cord involving the dorsal and lateral tracts, most marked in the thoracic region, and nerve roots undegenerated as also the gray matter, no cachexia or anemia. In the second case there was diffuse degeneration in a patient dying with symptoms of pernicious anemia, the lesions sharply limited to the dorsal and lateral columns of the cord, but not anatomically confined to the neuron systems. There were no noteworthy alterations of the nerve cells of the ventral horns and no general changes in the blood vessels, either without or within the cord, and the nerve roots were unaffected. Both cases belong in the general group of diffuse (combined) spinal degenerations; those in the first case being much more diffuse than in the second, which is noteworthy in its relation to the fact that cases associated with anemia have been declared to be more diffuse than others. The authors are inclined to think that the various concomitant conditions associated with this type of nerve degeneration are not etiologically significant, but that there is some unknown cause, which they may call a toxemia. They review the opinions of various authorities on the subject and hold to their previously expressed opinion that no fundamental characteristics of the lesion have been found dependent on different causes, and that for the present diffuse or diffuse (combined) degeneration is as near an exact designation of the anatomic conditions as can be made. This, of course, excludes other cases, such as those of Friedreich's disease or paresis, where true systemic degeneration of the lateral and dorsal tracts may take place. In conclusion they remark that cases which present during life a high degree of spasticity with slight ataxia seem to be more chronic in their course than those where the ataxic symptoms are more pronounced and early.

15. **Malpractice.**—Cumston's paper is an interesting historical review of the recognition of civil medical liability under the law. It shows that it has been sustained by the courts at all former times. He does not take up the question of criminal malpractice.

17. **Malaria.**—McKibben finishes his article on malaria at Worcester, Mass, showing how general it has become, and how directly its origin is traced to infection by mosquitoes and the neglect of local authorities in meeting the case.

### Medical News, New York.

*December 19.*

18 *Peripheral Neuritis. A Clinicotherapeutic Résumé. William B. Pritchard.
19 *Clinical Experiences with the Enlarged Pharyngeal Tonsil. H. Gradle.
20 *The Surgical Treatment of Dysmenorrhea. Wm. E. Parke.

21 *The Dangers of Inflating the Stomach with $CO_2$ Gas; Its Diagnostic Value. Report of Three Cases with Autopsies. Moses Behrend.
22 *On the Value of Urethral Catheterization and Urine Separation with Hemocryoscopy and Urinocryoscopy in Surgical Diseases of the Kidney. William E. Lower.
23 Some Experiments and Conclusions in Hypnotic Therapeutics. W. H. Wallace.

*December 26.*

24 *Predispositions to Tuberculosis. John B. Huber.
25 *The Indications for the Ligation of the Internal Jugular Vein in Lateral Sinus Thrombosis. Seymour Oppenheimer.
26 *Chorda Venerea. G. S. Peterkin.
27 *On the Reflex Eruptions of the Skin from Morbid Alterations in the Male Urethra. A. Ravogli.
28 *The Treatment of Some Diseases of the Eye by Warm Medicated Sprays. David T. Marshall.

18. **Neuritis.**—Pritchard reports six cases illustrating as many different types, the first being a neuritis of the seventh nerve. He points out the difference between central and peripheral facial palsy, and describes the treatment. He has much faith in electricity in these cases. Sciatica is next mentioned; here he would advise the use of morphin where it is indicated, as preferable to other drugs that have been recommended to relieve the patient. As regards nerve stretching or surgical interference, he advises extreme conservatism and mentions a case where paralysis followed operative measures. He says do not forget in all cases to examine for diabetes or gouty states or lead poisoning, the blood for malarial and other parasites, the pelvis for tumors and uterine disease, and the bones for hyperplastic inflammatory disorders, the blood vessels for aneurisms or varicosities, all of which may aggravate sciatica. The third form described is intercostal neuritis associated with zoster. He dispenses with the use of local treatment in these cases as a rule, and regards the application of galvanism through a bare metal electrode as often positively harmful. Neuritis of the fifth nerve or tic douloureux is described at considerable length. He calls particular attention to the habit tendency. The nerve function when perverted is particularly prone to habit tendencies. Starting in some local definite cause or in some equally positive constitutional state, he says, a neurosis, motor, sensory, or vasomotor, quickly develops the habit tendency, which results in a continuation of the neurosis after the cause has ceased or has been removed surgically or otherwise. He protests against radical surgical procedures in this form, and says be sure that your patient has a trial of everything else and that the condition can not be made worse before you resort to them. He mentions the castor-oil treatment, which has occasionally been followed by relief, and it should be tried if other more legitimate methods fail. Dana's method with progressive massive doses of strychnia he has found in a few cases to have a marvelously happy result, but if no result is obtained by the fifth day and reaching doses of 1/12 of a grain, it is useless and sometimes dangerous to carry the treatment further. His own plan of treatment is, after having antagonized all local and constitutional predisposing causes, to have recourse to the constant current guided as to quantity by the meter. Mild currents with long seances is a safe general rule, and he puts his patients on full doses of hyoscin hydrobromate, 1/100 to 1/50 of a grain, two or three times daily, and follows this with the anodyne prescription of sodium salicylate, 3 gr., quinin 1 to 2 gr., codein, 1/4 to 1 gr. One such every three, four or five hours. Heroin may be used instead of codein. Lastly, he mentions traumatic neuritis and remarks on its medicolegal bearings. In conclusion he summarizes the following points: 1. The importance of functional rest in all cases of neuritis often to the extent of mechanical enforcement. 2. The value of forced nutrition, especially with fats, constitutionally and locally. 3. His great confidence in electricity and massage, neither of which, however, should be used empirically, and both of which require the utmost nicety of personal adjustment. 4. The maintenance of an equable surface temperature in all forms of sensory neuritis. 5. The recognition of the neurotic habit, tendencies and predispositions, and recognition of the fact that is almost axiomatically true that all cases of neuritis, except perhaps the traumatic and mechanical, are associated with and often dependent on states of altered metabolism and perverted nutrition, to which recognition is logically correlated the necessity of tonic, alterative and nutritional measures.

19. **Adenoids.**—Gradle first remarks on the adenoid face, which is not always significant, as it may occur with other conditions, and may be wanting where the pharyngeal tonsil is enlarged enough to be of clinical importance. Most patients breathe easily enough while standing, but on lying down the difficulty begins. He is inclined to attribute the greater destruction during sleep to the turgescence of the posterior ends of the turbinals—the inferior and also to some extent, the middle. This also explains the characteristic adenoid "dead" voice. Aprosexia, or the lack of ability to give attention, seems to depend on the size of the hypertrophy and not on the obstruction by vascular distension. In all his cases it occurred with large tonsils. He thinks it has not been sufficiently emphasized that most of the mischief from adenoids results from inflammatory attacks of the tonsil when enlarged. The inflammation, often subacute from the start, extends into the nasal passages, to the ears and not rarely to the bronchi. He is not inclined to think that mechanical stoppage of the Eustachian tube occurs as a rule. Eustachian catarrh has usually a favorable prognosis, and he thinks the danger to hearing has perhaps been a little overstated, but the relation of adenoids to eye affections has not received the attention it deserves. In children suffering from phlyctenular keratitis a large majority have hypertrophied pharyngeal tonsils, and he has followed the practice of removing the adenoids in such cases with good results. The effect on the general nutrition is marked, and it almost seems that some adenoids exert a poisonous influence. He has seen anemia improve rapidly after operation. In older children the results are not quite so satisfactory because of the hyperplastic lesions in the upper-air passages often induced by the adenoids. The cause of adenoid growth of the pharyngeal tonsil he found in the repeated attacks of coryza in predisposed subjects, and the history of his cases confirms this belief. The relation of adenoids to scrofula is mentioned as a not yet fully solved problem, as apparently scrofulous children are more liable to these conditions. He thinks the indication is to remove any enlarged pharyngeal tonsil that causes disturbance, and he regards a tonsil as morbidly enlarged whenever it projects above the surrounding mucous membrane. Operation in his hands is usually performed without narcosis, which he thinks would make it a rather more severe procedure. If an anesthetic is to be used nitrous oxid gas is best, but outside of multiple tonsillotomy the adenotome enables the operator to do his work as well and more quickly with a wide-awake child than a narcotized one.

20. **Dysmenorrhea.**—Dilatation and curettage is the method here described by Parke, which is, he thinks, a simple operation, not, however, wholly unattended with danger. It should not be undertaken without physical examination to determine the absence of contraindications, and without the greatest care as to antisepsis and the avoidance of accidents.

21. **Stomach Inflation.**—Three cases of death following stomach dilatation for diagnostic purposes with $CO_2$ gas are reported by Behrend. In the first case death resulted from hemorrhage at the base of the ulcer; in the second case the patient was prostrated from its use and never rallied, dying the following day. It was one of carcinoma of the esophagus and stomach with cholelithiasis and pericholecystitis in a very debilitated patient. The third case was in a man suffering from carcinoma of the esophagus and the patient was semi-conscious from the administration of the gas until the time of his death. He thinks that these cases show that the use of carbonic acid gas in inflating the stomach is rather a serious operation, infinitely more dangerous where there is a disease of the esophagus and the cardiac end of the stomach. This may be due to pressure exerted within the narrowed limits. If used, the procedure must be employed only with discretion and in selected cases.

22. **Kidney Diseases.**—The title of this article explains it. Lower calls particular attention to the cryoscopic method as an important supplement to other methods of examination and as the best-known way at present of determining the functions of the kidney.

24. **Tuberculosis.**—Huber recognizes the hereditary tendency to tuberculosis manifested chiefly by what he calls a scrofu-

lous temperament with pallid skin and flabby flesh with often a chronic blepharitis; phlyctenulæ are frequent, the nose is large and broad, adenoids and hypertrophied tonsils are common, so that the patients are frequently mouth-breathers; there is generally a sluggish, torpid metabolism. Besides these anatomic defects he notices also the narrow chest and projecting shoulder-blades, the small respiratory muscles as well as the defective development of the aorta, congenital heart lesions, small heart, anemia, chlorosis, slow teething, deficient ossification, and so on. Other defects are functional in character, and this is an important point, as functional rather than anatomical modifications are transmitted. The latter are more dependent on the former. He also recognizes the possible transmission of tuberculosis congenitally, and questions the inhalation theory of its transmission, believing that the alimentary tract plays a much more important part in the spread of the disease. Faulty metabolism plays an enormous part in predisposing the tissues. The decomposing nitrogenous matters in the body afford culture ideal media; impaired circulation, alcohol with its accompanying poverty and ill health are also important factors. He notices also the subtle relation between insanity and tuberculosis, the bad diet such as is customary in the country, intermarriage, the constipation habit, etc. Tuberculosis is prone to follow on other diseases, such as bronchitis, influenza and neglected colds, and there are a number of trades which seem to stand in a direct causative relation to it, also direct injuries from contusions, wounds, etc. Psychic factors are also to be considered, such as excitability, overwork, shock, etc., deranging the functions. He considers that the bacillus itself is not the only thing to be combated, but thinks that its discovery has benefited matters on the whole by leading to the adoption of principles of prophylaxis and sanitation. While there are some immunizing serums which promise much, he remarks that they will never exceed in value such immunizing agents as fresh air, sunlight, cleanliness, well-drained and ventilated houses, good food and good hygienic measures.

25. **Ligation of the Internal Jugular Vein in Lateral Sinus Thrombosis.**—The advisability of ligating the internal jugular in lateral sinus thrombosis is discussed by Oppenheimer, who notices Jansen and Brieger's views, and reports cases where it was indicated and performed. The most difficult cases in which to determine whether to ligate or not are those in which no operation has as yet been performed on the sinus, especially when pyemic symptoms are not well marked or the vein itself does not give indication of septic or thrombotic changes. Where the infection has extended into the jugular vein and resulted in suppurative phlebitis, the vein should be heated as low down to the clavicle as possible, the second ligature placed high up and the entire vein removed between them. He considers that the presence of a high temperature, and rapid remissions, quick alterations and repeated rigors are very important symptoms, and beginning or well-marked neuroretinitis is also an indication for operation. Profuse sweating should be noted, while vomiting, anorexia, and accelerated pulse rate may help to elucidate the case. Where the sinus has been exposed but not operated on, and aspiration shows that the lower portion is beginning to disintegrate, one is certainly justified in immediately ligating the vein. It is indicated even more if septic symptoms of even a minor degree are present, though no emboli have as yet entered the circulation. Another indication for ligating after exposing the sinus is the presence to the eye of the movement of respiration transmitted to the sinus, the dangers of embolism of air under these conditions, and the implied presence of a thrombus entering into the torcular, warranting the immediate ligation of the vein in the neck before the sinus is opened. This must be rare, however, as he has never seen a case in which this phenomenon was well marked. Infiltration of the soft tissues is a valuable sign, indicating phlebitis and thrombosis of the internal jugular vein, etc. In the third group of cases where the sinus has been opened and a large thrombus extending down into the jugular with coexisting purulent disintegration is seen, not before recognized, and it is not practicable and possible to remove the putrid mass without dislodging dangerous particles, the indications are perfectly clear to ligate the vein in order to prevent disintegration of septic matter. Another indication is the presence of a large firm thrombus, filling the sinus and extending well down into the vein, even if no septic or disintegrating changes be present. It has seemed advisable to Oppenheimer from his observation in cases of sinus phlebitis, to ligate the vein whenever local symptoms indicating its involvement were present. When there was sepsis, and especially irregular temperature and rigors, and when, after the mastoid has been opened, the presence of pus is evident in the vessel.

26. **Chorda Venerea.**—Peterkin considers this condition due to a local gonorrheal diseased area inaccessibly situated, and he would treat it by rest, if possible, prevention of erections, cleanliness, thorough flushing, a regulated diet, keeping clear of excitants and stimulants. In severe cases a fluid diet is needed, instructing the patient to sleep on a hard mattress with light covering and not to rest on the back, to avoid sexual excitement, emptying the bladder at least once during the night, the use of sandalwood oil and local baths to the part, etc., keeping the bowels free and avoiding wet feet. He would also use hot bactericidal, solutions, but speaks particularly of the value of massage of the prostate and seminal vesicles in acute gonorrhea as a valuable method in these cases. These relieve the desire for sexual excitement, remove abnormal stimulus and relieve congestion. He gives directions as to the methods of conducting massage by distending the bladder with water, pushing it down and massaging or stripping through the rectum until the prostate and seminal vesicles are emptied of their contents. Once or twice a week is usually sufficient. He thinks at the same time antiseptic injections to cleanse the bladder and urethra should be employed.

27. **Reflex Urethritic Eruptions.**—Two conditions especially noticed by Ravogli are herpes, which he finds, at least in the relapsing cases, to be generally associated with posterior urethritis, and pruritus of the anus, prostate and scrotum, which he found to largely depend on prostatic congestion. In the former disease he would treat the cause, using only local treatment for the herpes, usually washing with soap and water and using absorbent powders for drying. For pruritus he would advise massage of the prostate to relieve the condition of chronic pruritus, and the local use of ichthyol. When the excoriations have healed up and the eczema is improved, employ oxid of zinc ointment, etc. In the case of stricture he would use the sound freely, applying it every two or three weeks and then once a month until no more mucus comes out after its application.

28. **Eye Diseases.**—Marshall calls attention to the value in certain diseases of the eye of warm medicated sprays. They are indicated, he thinks, in almost all the diseases of the conjunctiva, such as acute catarrhal, chronic, epidemic, gonorrheal, trachomatous and phlyctenular conjunctivitis; in corneal diseases like ulcer, infiltration and interstitial keratitis and in iritis.

### American Medicine, Philadelphia.

*December 26.*

29 *Typhoid Fever and Tuberculosis. William Osler.
30 *Retrodisplacements of the Uterus. J. M. Baldy.
31 *The Results of the Surgical Treatment of Ascites Occuring in Cirrhosis of the Liver, with the Report of a Case. Herman B. Allyn.
32 Sarcoma of the Abdominal Wall, and Probably of the Pelvic Viscera, which Has Disappeared Under the Use of the Roentgen Rays. George E. Shoemaker.
33 *The Islands of Langerhans in Congenital Syphilitic Pancreatitis. Richard M. Pearce.
34 *Some Experiments with Radium on Bacteria. Frederick Van Beuren, Jr., and Hans Zinsser.

29. **Typhoid Fever and Tuberculosis.**—Osler points out that these diseases may be concurrent. He thinks enteric fever is rarely mistaken for tuberculosis, but that much more frequently tuberculosis is mistaken for typhoid, and he gives illustrative cases where this mistake is most possible. In rare cases pulmonary consumption follows typhoid, but he does not think that the facts warrant the statement often made that typhoid convalescents are especially liable to tuberculosis. He believes that many of these cases are tuberculous from the outset.

30.—See abstract in The Journal, xli, p. 1105.

31. **Talma's Operation.**—Allyn reviews the statistics of this operation, including a list of 125 cases, 38 of which died within thirty days after the operation; 35 were not improved, and 51 were improved. About 60 per cent. altogether were not improved. He thinks, however, that a better selection of cases will reduce the mortality and increase the number of cures. In several cases where cure was finally obtained repeated tappings were necessary after the operation and the collateral circulation was only established after months. Certain contraindications, such as feebleness of the heart with chronic nephritis, nervousness, restlessness, etc., are also noted. He believes that in suitable cases the operation deserves a trial. He reports a case which was unsuccessful.

33. **Islands of Langerhans.**—Pearce briefly reviews the literature of the subject and gives the result of certain studies of the development and pathology of these bodies in the embryo. He finds that in the pancreas of the third month the islands are still connected with the acini by solid processes of cells. The proportion of connective tissue is very large, as the rapid glandular growth does not occur until the fifth or sixth months. Any disease of the pancreas occurring at this time would influence the development of the organ, and the evidence of this faulty development would be present at any subsequent stage. Syphilis of the pancreas has been observed as early as the fifth month, and it seems justifiable to conclude that syphilitic infection occurs earlier, at the third or fourth months, when the islands are still connected with the gland tubules, and that the newly-formed connective tissue causes atrophy of the gland, but spares the more resistant islands, as his studies show.

34. **Radium.**—Van Beuren and Zinsser have experimented with radium on bacterial growths, generally with negative results; only in one case, that being dubious, was there an apparent effect. The length of time employed, however, was shorter than that of Pfeiffer and Friedberger's experiments, and only one of the experiments was made in the dark chamber. The interposition of glass between the active substance and the matter to be acted on is also to be considered in estimating their experiments. They think that on the whole their researches point to the conclusion that we can not expect very much bactericidal action from radium.

### Cincinnati Lancet-Clinic.

*December 26.*

35 *The Duties and Responsibilities of the Organized Medical Profession. Benj. L. W. Floyd.
35½ President's Address, Ohio Valley Medical Association A M. Hayden.
36 Surgery of Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. M. Ricketts.

### St. Louis Medical Review.

*December 19.*

36½ Presentation of a Patient the Subject of Calculous Formations in the Kidney, Ureter and Bladder; the Other Kidney Inactive: Removal of Stones from the Only Active Kidney by Nephrotomy and from the Bladder by Means of the Operative Cystoscope of the Author. Bransford Lewis

### Northwestern Lancet, Minneapolis.

*December 1.*

37 *How Shall We Treat Appendicitis? A. T. Conley.
38 Rickets. G. M. F. Rogers.
39 Surgical and Medical Emergencies and How Met by the Country Practitioner. Israel Lemieux.
40 Abstract of the Law Relating to the Pollution of the Waters of Lakes and Streams. Rome G. Brown.

*December 15.*

41 *A Plea for Child-bearing Women. William E. Ground.
42 Modern Renal Surgery. J. E. Moore.
43 *Some Complications of Strangulated Hernia, with Cases. Arthur T. Mann.

37. **Appendicitis.**—Conley advocates the medical treatment of acute appendicitis. He would himself, if called early, give a saline cathartic, but if vomiting is persistent and pain intense he would use ¼ to ½ grain of morphin hypodermically; then follow with a saline. Give as little opium after this as possible and apply the ice bag. As soon as the diagnosis is made insist on absolutely no food being taken by the mouth. If the stomach has not been thoroughly emptied by vomiting use lavage; otherwise he does not advise it. If the bowels are distended with gas and uncomfortable give 8 or 10 drops of turpentine. If the patient insists on taking something, give small doses of tincture of nux vomica or salol or salicylate of sodium. On the third or fourth day he would begin the rectal feeding, using predigested food or simply pure milk with normal salt solution. If the temperature drops to normal with no sign of abscess for two or three days, begin to give milk in small quantities. If an abscess forms, open and drain it. Later in any case if the patient does not recover or has much trouble with recurring attacks have him go to a hospital for operation.

41. **A Plea for Childbearing Women.**—Ground's paper emphasizes the need and greater attention to woman during pregnancy as to her general physical condition, and the accidents that are liable to occur and the percentage of narrowed pelves which seems to be nearly that of 13 or 14 per cent. In the Johns Hopkins Hospital two separate series showed almost identical figures of about 13.1 per cent. Others have given still higher figures. It is a matter that certainly needs the attention of the practitioner. The pregnant woman is subject to all of the diseases that others are liable to with added risk. Typhoid fever is a dangerous complication, causing fetal mortality in about 70 per cent. of cases. The same may be practically said of pneumonia, influenza, scarlet fever, measles, smallpox, etc. Chronic conditions of the heart, lungs and kidneys are badly influenced by pregnancy. Valvular disease of the heart is a very serious complication, especially with failing compensation. Tuberculosis, while it may apparently cause temporary improvement, is a very serious matter to the pregnant woman. There are also pathologic conditions peculiar to the state, such as kidney involvement, which is not by any means too carefully looked for. Slight hemorrhages after the beginning of pregnancy are too often neglected, though they may indicate tubal pregnancy, placenta previa or miscarriage. It is only by timely attention to these complications that safety can be obtained. The position in presentation should be looked after at the seventh month and every two weeks thereafter until the termination of the term, and the possibilities of dystocia should be borne in mind. As regards labor, he speaks of the necessity of absolute asepsis so far as possible. While his talk is elementary he thinks it nevertheless called for. Postpuerperal examination is a feature that is very commonly neglected. An investigation of gynecologic cases show the frequency with which women date their illness from pregnancy and parturition, and all these things mean something. After the immediate repair of the perineal laceration it is necessary to observe the patient for a month or two. There should be an examination four to six weeks after delivery to ascertain if the pelvic floor has sustained injury, if there is any tendency to retrodisplacement, etc., to observe the condition of the cervix and to estimate the process of involution. As regards retrodisplacements, Ground says that much can be done by not allowing the woman to lie on her back during the puerperium, and on every other day during the next three or four weeks having her take up the knee-chest posture and apply ichthyol and glycerin tampons, also not allowing her to hang heavy skirts from her waist. Postpuerperal retroversion can be prevented by compelling the woman to lie on her side after the first forty-eight hours.

43. **Strangulated Hernia.**—Mann notes complications and illustrates them by cases such, for example, as reposition of strangulated hernia *en masse* without attention to whether the strangulation at the neck of the sac still continues. The case here reported shows that lack of pain and localized tenderness is no absolute security. When there is no surgeon at hand taxis may be applied for a longer time, and it may be used with care under anesthesia. But if fecal vomiting and the duration of the strangulation indicates the death of the bowel, further delay is dangerous. The physician, however unwilling he may be, will then do well to operate if he can get the proper assistance.

### *Medical Fortnighty, St. Louis.*

*December 10.*

44 *The Life Insurance Question with Special Reference to Cardiac Lesions. O. E. Lademann.
45 *Spinal Injuries. N. B. Carson.

44. **Heart Disease and Life Insurance.**—Lademann holds that individuals with a slight defect in the mitral segments, which he calls favorable mitral insufficiencies, who lead a quiet life with light work, such as office work, whose habits are good, are but little more risky for life insurance than healthy individuals in the majority of cases. In the majority of cases such patients when told of their condition will live a life compatible with Nature's efforts to overcome the defect, and it will not be materially shortened by their infirmity.

45. **Spinal Injuries.**—Carson reviews the various forms of spinal injuries, dislocation, trauma to the cord itself, etc., and favors prompt operation in these cases. He has had the opportunity of examining Stewart's case of resection of the cord on two occasions, and is more than ever convinced that if he were called on to operate in a case of crushed cord, he would certainly resect and attempt approximation of the divided ends. He reports a case of dislocation which he reduced by suspension. The patient was totally paralyzed from the waist down and the eleventh vertebra projected beyond the one above so that he could bury three fingers under the projection. The patient ultimately completely recovered. In future cases, however, he would operate instead of using suspension, as his later experience teaches him that laminectomy is less dangerous.

### Medical Age, Detroit.

*December 10.*

46 Tuberculosis of the Brain and Its Meninges. E. G. Wood.
47 *A Brief Anthropological Study in Color. Q. W. Hunter.
48 The Card and Envelope System of Records. A. L. Benedict.

47. **Color.**—Hunter discusses the cause of color variations in the human race which seems to be independent of the anthropological stock. The Arabs and other non-Ethiopians in Africa are often as black as the natives. Native Africans may vary in color from a yellow-brown to a jet black, even in the same districts in different tribes. Another point is why the color of the offspring of the darker races is lighter at birth than later in life, and he notices varying statements in this regard. He believes that the offspring of full-blooded negro parents is a creamy yellow when born, gradually becoming darker, reaching the maximum or natural standard of color from six months to two years after birth. The offspring of a white or light mulatto mother and a full-blooded father will almost invariably be black or extremely dark, while full-blooded negresses have frequently given birth to light yellow offspring, the fathers being white. It is as difficult to explain the variations in color in the different races as it is to explain other peculiar racial characteristics, such as the almond-shaped eyes of the Mongolian, the high cheek bones of the Indian and the flat nose and kinky hair of the negro.

### The Alienist and Neurologist, St. Louis.

*November.*

49 *Responsibility and Crime. J. W. Wherry.
50 *Glossary of the Aphasias, Asymbolias and Alexias, with Comments. Charles H. Hughes.
51 *Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-ethics. (To be continued.) James G. Kiernan.
52 *Note on Automatic Retrospective Slumber. Charles H. Hughes.
53 Out-door Sports for the Insane. J. T. W. Rowe.
54 *Outlines of Psychiatry in Clinical Lectures. (To be continued.) C. Wernicke.

49. ***Responsibility and Crime.***—Wherry's article is a plea for the recognition of partial responsibility of the insane. He insists that a large proportion of them are more or less responsible for their acts. To make them irresponsible there should be established a direct connection between the crime and the insanity. He says let the physician determine whether or not insanity is present, and then let the jury decide whether the prisoner is responsible or irresponsible by weighing all the facts and decide whether or not the crime is the direct sequence of the insanity. This, he thinks, would give better results than the methods now in vogue.

50. ***Aphasias.***—Hughes' article is a definition and discussion of the various forms of disturbances of speech and other methods of communication. It seems to cover the ground quite thoroughly, and is illustrated with schematic diagrams showing the presumed routes of the different forms of aphasic disturbances.

51. **Myxoscopic *Adolescent* Survivals.**—Kiernan's article is to be continued.

52. **Automatic Retrospective Slumber.**—What is understood by this title is explained by Hughes as a condition in which some extremely neurasthenic persons suffer from having the facts and actions of the day pass through the mind after sleep sets in, the mental ground of the preceding waking state being gone over again by the mind in a dream. For a long time these cases escaped his attention, he says, as he regarded them as only ordinary dreaming, but they differ from ordinary dreaming in that they are a repetition of the acts of the preceding waking period. The condition, he says, is plainly a brain tire symptom, similar in causation to the autopsychorhythmia previously described by him.

54. **Delirium Tremens.**—Wernicke's lecture covers this entire subject.

### Quarterly Journal of Inebriety, Hartford, Conn.

*October.*

55 The Study of Inebriety: A Retrospect and a Forecast. Harry Campbell.
56 *Sea Voyages in the Treatment of Inebriety. Martyn Westcott.
57 The Care and After-care of Inebriates. Heywood Smith.
58 *Nature's Immunization of the Race Against Alcoholism—A Review and Criticism of Dr. G. Archdall Reid's Work on Alcoholism. Winfield S. Hall.
59 The Treatment of Inebriates. A. M. Roseburgh.

56. **Sea Voyages for Inebriates.**—Westcott points out the advantages and disadvantages of sea voyages for curable cases of inebriety. For the confirmed sot they are useless, and he thinks that excepting under favorable circumstances they are not advisable even for other cases. It is only where the patient will allow himself to be thoroughly under control and be absolutely restricted from all alcoholics that they will be of value. Under such circumstances there is no doubt that he might derive considerable benefit from the fresh outdoor life and change of surroundings of a sea voyage.

58. **Racial Immunity Against Alcohol.**—Hall accepts much of Archdall Reid's theory that the race becomes more or less immune or free from the alcohol appetite by natural selection, but thinks that his theory of the method is too pessimistic, and that much can be done by the proper care by the state of the children of inebriates.

### Medicine, Detroit.

*December.*

60 Christian Fenger as Pathologist. E. R. Le Count.
61 *Tetanus and Vaccine Virus. John H. Huddleston.
62 Preliminary Report in the Case of a Patient in the Practice of Drs. Hyde and Montgomery, in the Prefungoid Stage of Mycosis Fungoides, Treated with Radiotherapy. Oliver S. *Ormsby*.
63 Specialism in Its Modern Significance. Albert B. Hale.
64 Action Taken by the Department of Health on the Report of a Case of Smallpox. A. Blauvelt.
65 *Report of Committee of the Laboratory Section of the American Public Health Association on Bacillus Tuberculosis in Man and Animals. Mazyck P. Ravenel.
66 The Development of American Bacteriology. H. L. Russell.

61. **Tetanus and Vaccine Virus.**—Huddleston has experimentally examined to find whether calves used in vaccine laboratories are likely to be infected with tetanus germs. He concludes that the feces of calves fed on hay may contain the tetanus germs. They do not appear in the glycerinated virus. If any form of vaccine virus, either dry points or tubes of glycerinated virus, is infected with tetanus it may convey it. Small amounts of infection easily fail of demonstration, both by animal and by cultural tests. If the tetanus germs are applied in quantity to the inoculated areas of a calf at any time during the period of vaccine production, the tetanus may be present in the vaccine virus. Inoculation by scarification is a possible method of inducing tetanus in susceptible animals. He holds that it is probable that precaution against the issue of infected vaccine virus consists less in tests of the virus than in the care taken during the production, and especially in the cleanliness of the methods in use in the stable and laboratory.

65. **The Tubercle Bacillus in Man and Animals.**—This report is signed by de Schweinitz and Moore, and says that in summing up the available evidence there is strong ground for

believing in the genetic unity as well as the intertransmissibility of the human and bovine races of the tubercle bacillus. The committee considers that it has been positively proven that a certain proportion of persons, chiefly young children, meet their death through infection with the bovine tubercle bacillus, but the extent of this danger is not ascertainable with present knowledge.

### Medical Herald, St. Joseph, Mo.

*December.*

67 *The Mechanical Problems of Intubation. B. F. Gillmor.
68 Medical Ethics. John D. Seba.
69 Cough; Its Sequelæ and Suggestive Treatment. L. H. Warner.

67. **Intubation.**—Gillmor's article is rather fully illustrated, giving his views and experience with intubation. He prefers the Feroud-Thorner tube to the O'Dwyer instrument as having certain advantages, being insertable by any kind of intubator and better shaped. The article is hardly abstractable without the illustrations, which are very numerous.

### Atlanta Journal-Record of Medicine.

*December.*

70 Pathology and Symptoms of Constipation. Mark W. Peyser.
71 Puerperal Insanity. J. W. Palmer.
72 Pathology and Treatment of Some of the Affections of the Upper Air Tract. James M. Crawford.
73 Some Indications for the Use of Normal Saline Solution. J. B. Morgan.
74 *An Operation for Permanent and Quick Cure of Hemorrhoids. Almost Bloodless and Painless. John C. McAfee.
75 The Treatment of Gonorrhea. S. D. Warnock.

74. **Hemorrhoids.**—McAfee operates for hemorrhoids by divulsing the sphincter, using a clamp devised by Dr. Earle of Baltimore, to whom priority of the operation belongs, applied to the base of the pile in its linear axis at junction of normal mucous membrane, and then locked. Then using a double-thread catgut suture (Lee's No. 2) he sews under the clamp at the muco-cutaneous junction, catching the two distal ends of the thread in a forceps. After the needle is drawn through under the pile clamp, one of the threads on the needle side is cut off to facilitate tying. Then, cutting off the pile above the clamp a continuous suture is carried round and round the clamp, proceeding toward the upper end of the pile tumor. When the upper end is reached it is tied, the clamp withdrawn, the suture tightened and the lower end tied. This procedure is then carried out with each pile tumor till all are removed. He has performed this operation in 25 cases without any complications or trouble. The loss of blood is practically *nil* and the approximation of the cut edges is perfect and there is no tissue constriction. Anodynes are often not needed after the operation. A patient can return home in a week, and usually returns to work at the end of ten days.

### Memphis Medical Monthly.

*December.*

76 A Tri-state Summary. John W. Hayes.
77 *Experimental Medicine. Wm. Krauss.
78 *The Advantages of Cesarean Section Over Other Methods of Delivery in Cases of Obstructed or Deformed Pelves. H. Lee Farris.
79 Acute Infectious Cholecystitis. A. A. McClendon.
80 Prostatic Abscess. Allen E. Cox.
81 Two Unusual Obstetrical Cases. W. S. A. Castles.

77. **Experimental Medicine.**—Krauss' article is an exposition of the conditions of immunity and contagion according to the Ehrlich theories.

78. **Cesarean Section.**—Farris holds that the life of the infant, under certain conditions, justifies cesarean section, which has as low a mortality as easy ovariotomy. Classical cesarean section is less mutilating than Porro's operation, and with the patient in good condition is the elective method. The Porro cesarean has about the same mortality as hysterectomy for fibroids, and it should be performed when the patient demands it or when infection or neoplasm makes it necessary. The practitioner should be prepared in the case of a multipara with a history of one or more dead children to perform the operation if necessary. If he does not possess the necessary surgical training he should call in surgical assistance.

### Interstate Medical Journal, St. Louis.

*December.*

82 Lacunar Tonsillitis. James M. Brown.
83 A Case of Traumatic Injury to the Brain Involving the Tongue Center—Operation. Willard Bartlett and Sidney I. Schwab.
84 The Relationship Between Certain Catarrhs of the Skin and Certain Catarrhs of the Mucous Membrane of the Eye, Ear, Nose and Throat. Martin F. Engman.

### Journal of the Michigan State Medical Society, Detroit.

*December.*

85 The Omentum. W. H. Haughey.
86 A Study of Some Difficulties in the Use of the Obstetric Forceps. James E. Davis.
87 The Management of Smallpox in Houghton County, with Report of 288 Cases. W. H. Matchette.
88 Electrophysics and Their Application to the Scientific Treatment of Disease. C. L. Barber.
89 A Study in Cases Illustrating Points of Diagnosis in Obscure Appendiceal Disease and Others Simulating Appendicitis. H. W. Longyear.
90 Prolapse of Uterus, Vagina and Bladder. J. G. Lynds.
91 Flatulence, Meteorism and Tympanites. Charles D. Aaron.
92 Hyperemesis Gravidarum. L. Breisacher.
93 Some Essential Points in the Use of the Kelly Female Cystoscope. Benjamin R. Schenck.

### Canadian Practitioner and Review, Toronto.

*December.*

94 President's Address. J. T. Fotheringham.
95 A Report on the Systematic Use of Antitoxin as a Prophylactic Measure in Diphtheria at the Hospital for Sick Children, 1902-03. J. S. A. Graham.
96 Anesthetics and Surgery. John Hunter.

### Virginia Medical Semi-Monthly, Richmond.

*December 11.*

97 Cancer of the Stomach. Hugh M. Taylor.
98 Physical Findings of Pulmonary Tuberculosis. Robert F. Williams.
99 A Medical View of the Prevention of Appendicitis. Alex. G. Brown, Jr.
100 Saline Infusion—Methods of Use—Therapeutic Values—Cases. H. C. Beckett.
101 Report of Cases Showing the Efficacy of Electricity and Hot Air. S. G. Slaughter.
102 Congenital Absence of the Appendix. John W. Dillard.
103 Value of Auscultation in the Diagnosis of the Fetal Position. W. A. Plecker.
104 Some Remarks on the Importance of Otorrhea. Clifton M. Miller.

### Proceedings of the Philadelphia County Medical Society, Philadelphia.

*November 30.*

105 The Technic of Roentgen Ray Treatment. Mihran K. Kassabian.
106 *The Treatment of Carcinoma and Tuberculosis by Means of the Roentgen Rays. G. E. Pfahler.
107 Roentgen-ray Treatment of the Eye and Its Appendages. William M. Sweet.
108 Roentgen-ray Treatment of Keloid. Henry K. Pancoast.
109 The Finsen Light and Roentgen Rays in the Treatment of Diseases of the Skin. Jay F. Schamberg.

106.—See article in THE JOURNAL, xli, p. 1406. This number of the Proceedings was received by us December 10.

### Vermont Medical Monthly, Burlington.

*October 25.*

110 The Bacteriology and Pathology of Diphtheria. B. H. Stone.
111 Hernia of the Appendix. E. E. Ellis.

### Nashville Journal of Medicine and Surgery.

*October.*

112 Hemorrhoids. J. B. Witherington.

### Wisconsin Medical Journal, Milwaukee.

*November.*

113 Goiter. John T. Rogers.
114 Shortcomings of the Physician; Particularly in His Relations to the State and to Hygiene. A. F. Fuchs.
115 The Remote Sequelæ of Adenoids. C. D. Conkey.
116 Indigestion—A Few of Its Causes and a Few of Its Effects. H. B. Sears.
117 Cough in Influenza Simulating Whooping Cough. Pseudo-Pertussis. Arthur J. Patek.

### Medical Summary, Philadelphia.

*December.*

118 Cider Vinegar as a Remedy. W. H. Blake.
119 Medicinal Value of Chlorinated Lime. J. Dabney Palmer.
120 Treatment of Some Forms of Cutaneous Diseases. A. V. Banes.
121 Rheumatism—Acute, Sub-acute, Articular and Chronic. J. C. Densten.
122 Psychic Nerve Disease. C. E. Patterson.
123 Concerning Some Indigenous Medical Plants. H. A. Carrington.
124 Common Sense in Dietetics. William Wormley.
125 The Rest and Open-Air Treatment of Pulmonary Tuberculosis, with Special Reference to Tent Life in the Low Lands of Arizona. H. E. Stroud.

### Kansas City Medical Index-Lancet.

*December.*

126 The Examination of Railway Employes. W. E. Guthrie.
127 Postpartum Hemorrhage. G. A. Wall.

20 Clinical Examination of the Gastric Contents. Herbert French.
21 *The Question of Operation in Cancer of the Stomach. B. G. A. Moynihan.
22 Remarks on Some Results of Open-air Treatment. Claude C. Chidell.
23 Immunity and Treatment. Albert S. Grunbaum.
24 Diseases of Children: A Review of Recent Work. George F. Still.
25 A Review of Recent Literature in the Field of Dental Surgery. J. G. Turner.
26 A Case of Intrathoracic Tumor. Richard Alcock.
27 Tetany Occurring in a Patient Suffering from Gastric Cancer. James Burnet.
28 Summer Diarrheal Mortality in London. Louis C. Parkes.

18. **Mental Disorders Associated with Decay.**—Savage holds that senility is only relative and that premature senility gives the same results that the normal does; that environment has much to do with it. A man might retain the possession of his faculties to a good old age under quiet country life who would break down much earlier under the stimulus and surroundings of the city. He points out the characteristics of senile breakdown, more especially the defects of memory for recent events, which distinguishes the condition from the dementia of paresis where memory for recent events is generally retained. He holds, however, that paresis may occur in old age, though it is exceptional. There is also a loss of control as evidenced by maniacal outbreaks and in the lack of moral inhibitions. Special attention should be given to the characteristic cases of senile melancholia of the hypochondriacal type frequently associated with ideas of intestinal obstruction. There may be melancholia without melancholy, that is, the patient may not be actually depressed. A visible sign is the monotonous habit of repeating things and many of the patients who pass into senile chronic melancholia really do not suffer. Visual hallucinations are not uncommon and may be present with comparatively little general derangement.

21. **Gastric Cancer.**—Moynihan reviews the operations and the statistics. The questions he says that are in urgent need of settlement are: 1. Will palliative operation on the stomach prolong life? 2. Will it make the remnant of life more tolerable and the patient feel that the ordeal of the operation is justified in the greater comfort that he has obtained? 3. Will resection give reasonable promise of cure? 4. Will it not, if followed by recurrence, give increased length of days and better health? Kronlein's statistics are quoted and his conclusions stated, namely, that carcinoma of the stomach without operation is usually fatal within a year; that gastro-enterostomy prolongs the life of the patient for about three months on an average and that gastrectomy, so far as it is followed by recurrence, prolongs the life on an average fourteen months. Mikulicz' statistics are also given and compared. The results are almost the same as those of Kronlein, though the number was considerably greater. Moynihan says it must be admitted that we rarely obtain cases early enough to be hopeful and until more accurate methods of diagnosis are established, it is absolutely imperative that we should have recourse to exploratory laparotomy. To better our results we must explore not to confirm, but to make a diagnosis. While gastro-enterostomy has been spoken of unfavorably, excepting where there is pyloric obstruction, by Kronlein, von Mikulicz and others, Moynihan says there is no doubt it is occasionally productive of remarkable benefit, even when the growth does not actually obstruct by its blocking of the passage of food. In the majority of cases, however, little or no benefit results. If after exploration a growth is found obstructing the pylorus or narrowing the stomach and causing an hourglass condition, or if food stasis is present gastro-enterostomy will give very decided relief, but if the growth is confined to one or other of the curvatures without stenosis or stasis, this operation will not prolong life or make it more comfortable. The operation of gastrectomy in the hands of von Mikulicz, Carle and Fantino has given less mortality than gastro-enterostomy. It prolongs life more and there is a greater degree of comfort to the patient. He is relieved by the removal of a foul ulcerating growth and while, in the majority of cases, the growth will recur either locally or generally, the question arises whether it should not be performed deliberately as a palliative operation even when an early secondary deposit can be seen elsewhere. He sums up its advantages over gastro-enterostomy thus: In the most competent hands its mortality is even less; that prolongation of life for ten months longer than the period for gastro-enterostomy is the rule and that the comfort, general health and appetite are all emphatically better and the patient has a chance, though it may be a slim one, of complete recovery. Taking all these into consideration no doubt the operation of choice will be gastrectomy. If it is found on opening the abdomen that neither of these operations can be performed, some relief may be obtained by performing duodenostomy or jejunostomy. The scope of these operations is limited, but where prolongation of life for a few weeks is of great importance they are justified. The operations are simple, easily done, cause little or no shock and if it is necessary can be done under cocain anesthesia.

### Revue de Médecine, Paris.

*Last indexed XLI, page 1171.*

29 (XXIII, No. 7.) Paralysie générale et grossesse (pregnancy). S. Soukhanoff.
30 Secondary Cancer in Brain, Cerebellum and Medulla. L. Gallavardin and F. Varay. (Commenced in No. 6.)
31 *De la nycturie dans les affections cardio-vasculaires. Péhu. (Commenced in No. 5.)
32 (No. 8.) *L'alimentation des albuminuriques. G. Daremberg and F. Moriez.
33 Périgastrites adhésives antérieures consécutives aux ulcères gastriques. F. Duplant.
34 *Pathogénie, pronostic et thérapeutique du tabès (d'après 1960 observations). A. Belugou (Lamalou).
35 Etude thérapeutique et expérimentale sur la métabenzamidosémicarbazide (cryogénine). G. Carrière. (Commenced in No. 6.)
36 (No. 9.) Toxines pyrétogènes dans le paludisme. J. Régnault.
37 Troisième cas de fièvre typhoide à localisations anormales (colotyphus). V. Le Goic.
38 Contribution à l'étude des troubles intellectuels dans l'impaludisme. E. M. de Montyel. (Commenced in No. 7.)
39 Observations cliniques et anatomo-pathologiques sur la gastrosuccorrhée continue et sur la tétanie gastrique. L. d'Amato. (Commenced in No. 8.)
40 (No. 10.) Le faisceau pyramidal homolatéral. Le coté sain des hemiplégiques (the sound side in hemplegics). P. Marie and G. Guillain.
41 Erythromélalgie suivie de gangrène des extrémités avec autopsie. Lannois and A. Parot.
42 Anomalies artérielles. Brides intravasculaires. V. Aubert and A. Bruneau.
43 Pleurésie cancéreuse secondaire à prédominance fibreuse. Boinet and Olmer. (Commenced in No. 9.)

31. **Night Urination in Cardiovascular Affections.**—Retention of urine during the day and excessive urination during the night is not restricted alone to diabetes and sclerosis of the urinary apparatus, but is encountered also in affections involving the major or minor or the portal circulation. Péhu's clinical study of the subject indicates that the nycturia is due to insufficiency of the heart musculature which is unable to eliminate the fluids ingested during the day. They remain stored up in the tissues until the system relaxes during sleep and the arterial pressure rises. Elimination of the fluids then proceeds more rapidly. From this point of view nycturia may be regarded as an important sign of cardiac insufficiency outside of definite periods of "asystolie" (insufficient contraction of the left ventricle). Nycturia indicates reduction of the intake of fluids in order to lessen the task imposed on the heart.

32. **Diet in Albuminuria.**—Experience has convinced Daremberg that fish is an excellent article of diet in albuminuria, taken two or three times a week at noon. Two glasses of Vichy daily aid in maintaining the balance. After three or four weeks of this combination beef can be resumed with impunity, and finally an ordinary diet, abstaining only from alcohol, tomatoes and asparagus. His experience has been very favorable with this régime in cases of variable albuminuria—relic of a renal affection due to some infectious disease. Study of the relations between the albumin, the uric acid and the total acidity of the urine has shown that they all increase and decrease in parallel proportions in normal conditions. When the curves of the uric acid and total acidity are found to be at variance, the reappearance of albuminuria is imminent and should be guarded against by careful dieting.

34. **Tabes.**—Belugou remarks that tabes is extremely rare in women; all but 4 per cent. of his 1,960 patients were men. Syphilis was beyond question in 77 per cent. of the total number. The affection was rapid and fatal in 36 per cent.; 5 per cent. recovered, and in 59 per cent. the course was mild,

either arrested or with remissions. Antisyphilitic treatment coincided with marked improvement in 20 per cent., but improvement was equally marked in 23 per cent. who were not treated medicinally in any way. Antisyphilitic treatment should be tried in every case, he concludes, but it should be watched, as it is liable to aggravate the condition. Aggravation was noted among 44 per cent. of the 332 under mercurial treatment, and only in 24 per cent. of the 260 not treated. Mercury should, therefore, be abandoned if no benefit is apparent after a fair trial.

### Semaine Médicale, Paris.

44 (XXIII, No. 47.) Les troubles de la motilité dans la maladie de Thomsen. A. Jaquet.
45 (No. 48.) *De la glycolyse dans ses rapports avec le diabète sucré. R. Lépine.
46 *La crépitation laryngée signe de tuberculose pulmonaire. Remouchamps.
47 Letter from America. F. Munch.—Sociétés et associations médicales aux Etats Unis.
48 *L'opothérapie rénale contre les suppurations du rein (of kidney). .E. Cassaet. (Editorial abstract.)
49 (No. 49.) La nouvelle Convention sanitaire internationale.
50 Des diverses formes de rechutes typhoidiques (typhoid relapses). M. Coste (Marseilles).
51 *Les indications de l'emploi de l'adrénaline en gynécologie. N. N. Fénoménov. (Editorial abstract.)

**45. Sugar Metabolism in Relation to Diabetes.**—Lépine has long sustained the theory that the pancreas, by means of its internal secretion, has a marked promoting influence on sugar destruction. Further research has shown, he states, that several glycolytic processes take place in the tissues, variable in their factors and mechanism. Also that there are a number of glycolytic ferments, and that the one in the blood is aërobic. Sugar metabolism is reduced in diabetes, and the glycolytic power of the arterial blood is likewise reduced in asphyxia, in concussion of the brain and after removal of the pancreas in dogs. The glycolytic power of the blood is enhanced by slightly increased alkalinity, and by stimulation of the pancreas. The latter was accomplished in his research by faradization of the nerves accompanying the pancreatico-duodenal artery, or by heating or massaging the organ. Simple ligature of the pancreatic duct also enhances the sugar-destroying power of the blood, and this effect is much more pronounced if accompanied by ingestion of an acid drink. This latter fact he attributes to the influence of the acidity of the stomach on the production of pancreatic juice, which fact Pavlov has established. Lépine refers to Cohnheim's announcements that pancreatic juice and muscle juice combined have a much more powerful sugar-destroying action than either alone. (See editorial on page 1480 of last volume.) He adds that this discovery was forecast in his own work published in 1899, in which he announced that pancreas tissue favored alcoholic fermentation, and further, that this favoring influence was much magnified by previous stimulation of the pancreas. In some of his experiments the fermentation was three times as active after the pancreas tissue had been previously stimulated, than in the control tests. These results were obtained the same even after the organ had been cooked. In later research on dogs he has shown that lymph from the thoracic duct of a dog promoted alcoholic fermentation much more when it was taken after preliminary excitation of the nerves of the pancreas. In conclusion he asserts that recent experiences have demonstrated that the *x*-rays have a marked influence in promoting sugar metabolism in the blood *in vitro* and in the living dog.

**46. Laryngeal Crepitation as Sign of Tuberculosis.**—Remouchamps confirms the great value of Cybulski's sign of crepitation heard with maximum intensity in the larynx as the examiner listens with his ear 5 to 10 cm. from the subject's slightly opened mouth. The sound resembles that of the scratching of a pen. This laryngeal crepitation persists during the entire course of the tuberculosis, and when very pronounced it can be heard by an experienced ear at a distance when the subject is speaking. This sign was noted regularly in about a hundred tuberculous patients, and was the means of establishing the diagnosis in a number of cases in which the tuberculosis was in the earliest stages. The specific crepitation differs from that noted in bronchitis, etc., by the absence of sonorous and sibilant râles and by its persistence.

**48. Kidney Organ Therapy.**—Renal opotherapy has been generally abandoned since its failure in Bright's disease, but Cassaet reports excellent results from its administration in a case of severe pyonephrosis consecutive to lithiasis. His patient ate raw kidneys every day for two weeks, and by the end of this time the extremely purulent urine had become limpid. This diet was continued without interruption for about six months, and the patient can now be considered completely cured. Arnozan of Bordeaux has also reported excellent results from ingestion of organic juices in cases of suppuration of the viscera.

**51. Adrenalin in Gynecology.**—Fénoménov has found that adrenalin affects different parts of the mucosa of the genitalia in a different manner, the same as its action is different on the mucosa of the nose, mouth or larynx. It does not seem to affect the mucosa of the vagina, but has a pronounced action on that of the uterus. He even found that ischemia was marked throughout the entire uterine mucosa when the adrenalin was applied to the cervix alone. He was able to curette the uterus with a minimum loss of blood after merely tamponing the cervix with gauze impregnated with a .2 per 1,000 solution of adrenalin. This difference in the response to adrenalin between the mucosa of the vagina and of the uterus could be noted on the same subject.

### Archiv f. klinische Chirurgie, Berlin.

*Last indexed XLI, page 1561.*

52 (LXXI, No. 4.) Intubation in Cicatricial Stenosis and Difficult Decanulement. O. Ehrhardt (Königsberg).—Ueber Intubation bei narbigen Stenosen und bei erschwertem Décanulement.
53 Weitere Beiträge zur Frage der sogen. "Frühoperation" bei Epityphlitis (early operation). E. Payr (Graz).
54 *Instrument to Substitute an Assistant in Operating on Stomach and Intestines. A. Narath (Utrecht).—Zur Technik der Magendarmoperationen. Der "Gastrophor," ein Assistentensparer bei Magendarmoperationen.
55 Zur Pathologie und Therapie der Hernia duodenojejunalis. Ibid. One case.
56 *Influence of Roentgen Rays on Epithelial Tissue. G. Perthes (Leipsic).—Ueber den Einfluss der R.-Strahlen auf epithelial Gewebe, insbes, auf das Karzinom.
57 *Behandlung der Prostata-Hypertrophie mit perinealer Prostatektomie. Voelcker.
58 *Subkutane Rupturen der Gallenwege (biliary passages). F. Hahn.
59 *Ueber Operationen am Choledochus wegen Verengerung durch Narben oder Carcinom, nebst Bemerkungen über normales Pankreas-Sekret. W. Körte.
60 *Ueber Hart-Paraffin-Prothesen, speziell bei Hernien. H. Eckstein (Berlin).
61 *Einige Modifikationen in der Radikal-Operation der Leisten-Hernien. S. Petrulis (Kasan).
62 *Die Oesophagoskopie beim Divertikel. G. Lotheissen (Vienna).

**54. "Gastrophor" for Gastro-intestinal Operations.**—Narath devised this instrument primarily for posterior retrocolic gastro-enterostomy, but finds it useful in all intestinal and gastric anastomoses. It dispenses with an assistant to hold the stomach, and prevents escape of any stomach contents into the abdominal cavity, even when the patient vomits, strains or coughs. It also prevents hemorrhage and facilitates operating as the field is less obscured, and the parts can be sutured as if spread out on a pincushion, while there is no danger of the button's falling into the stomach.

**56. Influence of Roentgen Rays on Epithelial Tissue.**—Perthes accidentally noticed that a wart on his hand vanished while he was working with the *x*-rays. He consequently applied this treatment in 18 cases of warts, finding that 16 vanished completely under the action of the rays. He has been equally successful in curing cases of ulcus rodens of the brow and recurring carcinomatous nodules in the breast. [In the discussion that followed this communication at the German Congress of Surgery, Lassar mentioned that the *x*-rays have a remarkable curative action on the professional dermatitis of physicians and chemists. Kümmel reported a case in which an ulcer developed after *x*-ray treatment and from the ulcer a carcinoma, compelling amputation of the limb.—Ed.]

**57. Perineal Prostatectomy.**—Voelcker reviews 11 cases of hypertrophied prostate in Czerny's service treated by perineal prostatectomy. One patient died soon after the intervention, and another from sepsis proceeding from injury of the rectum. He warns that in deciding on the mode of operation it must be agents of rabies were discovered in the hippocampus major in two of the animals, a dog and a rabbit.

96. **Immunization Against Tuberculosis.**—Friedmann announces that he has overcome the difficulties connected with attempts at immunization against tuberculosis with either human or bovine bacilli. He has succeeded in rendering guinea-pigs and other animals immune to virulent doses of these bacilli by previous injection of tubercle bacilli derived from a large turtle which had succumbed to spontaneous tuberculosis. Animals treated with cultures of the turtle bacilli respond with a local infiltration, but it soon heals, leaving scarcely a trace, and the animals remain in the best of health while they tolerate without reaction otherwise fatal doses of human and bovine infection. When killed after three months the guinea-pigs showed no traces of infection except scattered, occasional, minute nodules similar to those described by von Behring and others in their immunized animals. No bacilli could be found in any of them, and in time they would probably entirely retrogress. Turtles infected with turtle tuberculosis soon die with millions of bacilli in every section of any organ, but if previously treated with human or bovine tuberculosis cultures they are uninjured by infection with turtle tuberculosis, while all the controls die in a week or two. Experiments are now under way to immunize larger animals, cows, horses, sheep, pigs, asses and goats, by this preliminary treatment with the turtle stem culture. The guinea-pig, however, is considered the touchstone of the method. As it does not seem to be injured in any way by the turtle tubercle bacilli, Friedmann thinks that we are justified in assuming that they will not harm any mammal. On the other hand, as the susceptible guinea-pig is so readily and completely immunized against tuberculosis from other sources by this method, we must assume that the turtle bacilli possess high immunizing power. We thus have in the turtle stem culture a vaccine material which is not only harmless but confers high immunity.

### Monatshefte f. praktische Dermatologie (Unna's), Hamburg.

*Last indexed XLI, page 890.*

100 (XXXVII, No. 6.) Eczema. Depigmentation of Hairs in Eczema and Discovery of Micro-organisms on the Hairs and Lesions on the Hairs Induced by Them. J. Schwenter-Trachsler (Berne).—Beitrag zur Ekzemfrage: durch Depigmentation der ekzematös erkrankten Haare und Darstellen der darauf befindlichen Mikroorganismen, sowie der durch sie verursachten Läsionen der Haare.
101 *Causes of Acid-fastness of the Tubercle and Lepra Bacilli. E. Delbanco.—Ueber die Ursachen der Säurefestigkeit der Tuberkel- und Leprabacillen. Die Säurefestigkeit der Lycopodium-Spore, der Kork-Zelle, etc. u. a.
102 (No. 7.) *Treatment of Pigmented Nevi with Hydrogen Dioxid. C. Cohn.—Die Behandlung der Pigmentmäler mit 30-percentigem Wasserstoffsuperoxyd Merck.
103 (No. 8.) New Representation of Epithelial Fibers and the Membrane of the Prickle Cells. P. G. Unna.—Eine neue Darstellung der Epithelfasern und die Membran der Stachelzellen. (Commenced in No. 7.)
104 (No. 9.) Ueber die Zell-Degeneration beim Rhinosklerom. V. Mirbelli. (Reply to Unna's article in No. 1.)
105 (No. 10.) *Stain Technic. A. Pappenheim.—Ueber Beizenfärbung.
106 (No. 11.) Psoriasis vulgaris der Mundschleimhaut (of buccal mucosa). M. Oppenheim (Vienna).
107 Experiences with Anthrasol. A. Sack.—Ueber die Erfahrungen mit dem neuen Anthrasol-Präparat.

101. **Causes of Acid-Fastness.**—Delbanco shows that the resistance of the tubercle bacillus to decolorization is due to the presence of a solid fat which protects it. This acid-fastness is shared by lycopodium spores, by cork cells and by certain other plant cells, and is due in each to the same cause, the presence of a fat more or less resembling tallow in its consistency. The presence of a non-solid fat does not confer this resisting power.

102. **Treatment of Pigmented Nevi with Hydrogen Dioxid.**—A 30 per cent. solution of hydrogen dioxid is applied twice daily to the nevus, a single drop on a glass rod. It is left to dry for fifteen minutes. The applications can be repeated several days in succession. They cause no appreciable pain. Cohn describes 3 cases thus treated at Unna's clinic. In each the nevus was very extensive, but under this treatment almost the entire extent of the nevus patches was cleared up in four weeks, and the few spots still left will undoubtedly subside under further applications at home, as the comparatively harmless substance can be safely entrusted to the mothers. One patient was a child of 5 with numerous dark moles over the entire trunk. In less than a week a large number of the nevi had disappeared completely under the applications of this 30 per cent. solution. Druggists have only recently succeeded in producing a concentration of this strength.

105. **Differentiating Staining Technic.**—Pappenheim describes some of the complex laws which govern the staining properties. Among others he notes that delicate differentiation of certain plasmatic substances is best done with what he calls an "adjective" staining with basic stains. On the other hand, differential nucleus staining is best accomplished with a "substantive" stain with basic stains, or an "adjective" staining with acid stains (alumhematoxylin).

### Therapie der Gegenwart, Berlin.

*Last indexed XLI, page 1508.*

108 (XLIV, No. 12.) *Ueber die Wurmkrankheit' Ankylostomiasis und ihre Bekämpfung. W. Zinn (Berlin).
109 *Zur Licht-Therapie nach eigenen Versuchen. P. Krause (v. Strümpell's clinic, Breslau).
110 *Therapeutic Application of Natural Gastric Juice from the Pig in Stomach Affections. L. C. Mayer (v. Noorden's clinic, Franfurt a. M.).—Ueber die therap. Verwendung natürlichen Magensaftes (Dyspeptine) bei Magenkranken.
111 *Die Behandlung der Fissura ani. M. Katzenstein (Berlin).
112 Die dermatologisch wichtigen Bestandtheile des Theeres und die Darstellung des Anthrasols (coal tar preparations). H. Vieth.
113 Latest Experiences in Infant Feeding. H. Finkelstein.—Säuglingsernährung. Collective Review.
114 Zur Anesthesirung der oberen Luftwege bei Tuberkulösen. G. Bradt.
115 Aristochin bei Bronchial-Asthma. K. Dresler.

108. **Ankylostomiasis.**—Zinn states that there are 17,161 cases of this affection known among the 181,730 miners in Germany. He reviews its history in other countries from the discovery of the parasite in 1838 to date, but apparently does not know of any American contributions to the subject.

109. **Phototherapy at Breslau.**—Krause reports that he treated 20 cases of erysipelas by keeping the patients in a room lighted only by a red light as tested by sensitized photographic plates. Comparison with 75 patients treated by other means showed that the average duration of the fever was a little shorter, 4.3 days with the red light and 6.2 without it, but in other respects the results were on the whole better without the red light. His experience with the electric reflector (Schuckert's Scheinwerfer) in 51 cases of various affections, including 5 of erysipelas, was more favorable, and he thinks the results observed warrant further trials of this measure. The benefits were most marked in rheumatism, lumbago, and neuralgia, the 28 patients in this class all asserting that they were much relieved during and immediately after the sittings. The effect was temporary at first and required several dozens of twice daily applications before complete cure.

110. **Therapeutic Application of Natural Gastric Juice.**—Pavlov's method of obtaining natural gastric juice from dogs has been successfully applied to pigs. The gastric juice thus derived has been tested at von Noorden's clinic, and in every case marked benefit was observed. Five cases are described in detail by Mayer out of a much larger experience. All the patients gained in weight during the five to seven weeks' course of treatment with this "dyspeptine." It not only substituted the inefficient or missing gastric juice but seemed to have also the power of healing the inflamed gastric mucosa and promoting the insufficient secretion. It was found especially useful in tuberculosis, restoring the appetite and slightly increasing the weight. In several cases of chlorosis and anemia accompanied by loss of appetite and vomiting, administration of the natural gastric juice just before meals cured these symptoms. The "dyspeptine" is not unpalatable, and the taste can be completely disguised by the addition of peppermint, lemon juice or beer. Stomach affections of any kind, acute or chronic, in which there is a deficiency of gastric juice indicate treatment with "dyspeptine" in doses ranging from 10 to 15 c.c. either just before or with the meals. As its action is both symptomatic and curative it can be regarded as a superior "stomachicum."

111. **Drug Treatment of Fissura Ani.**—Katzenstein deadens the sensibility of the nerve terminals in the fissure by applying cocain. He abolishes the spasmodic contraction with belladonna, and he disinfects the parts, to allow them to heal, with

a coating of ammonium sulpho-ichthyolate. His formula is .5 gm. extract belladonna, .05 gm. cocain hydrochlorate, and 6 gm. ammonium sulpho-ichthyolate. This mixture is warmed and applied on a piece of cotton twisted into a cord about the size of a knitting needle. It is inserted in the rectum along the wall opposite the fissure, and left until expelled. This application repeated twice a day will usually complete the cure of the fissure in a week or two at most.

### Wiener klinische Rundschau, Vienna.

*Last indexed XLI, page 816.*

116 (XVII. No. 3[illegible] [illegible]stomum-Epidemie im [illegible]
118 (No. 35.) *Die [illegible] (Commenced in No. [illegible])
119 Ab[illegible] [illegible]a).—Ueber Leibbinden. [illegible]
120 (N[illegible] A. Kautsky (Vienna).
121 (No. 37.) *Die Behandlung der Acne vulgaris mittelst Röntgen-Strahlen. L. Torök and M. Schein (Budapest).
122 *Ist die Ortho-Diagraphie für exakte Herz-Untersuchungen brauchbar (for precision in examining the heart)? Hornung.
123 (No. 38.) *Zur Therapie der Placenta previa. R. v. Braun-Fernwald. (Commenced in No. 35.)
124 (No. 39.) Zur Klinik der Pseudoparesis spastica. M. Sommer.
125 *Zur Klinik der Darmverstopfungen (intestinal occlusion). S. Schwartz.
126 (No. 40.) *Einiges über das Palmar-Keratom und seine Behandlung. A. Sack.
127 Ueber subhepatische Exsudate und Adhäsionen als Ursache von Koliken. L. Silberstein.
128 (No. 41.) *Zur Chemie und Technik der Diazoreaktion. A. Ott.
129 [illegible]rebral Hemorrhages. E. Gebauer [illegible]aumatischen Gehirnblutungen in [illegible] Beziehung. (Commenced in No. [illegible])

**118. Clinical Diagnosis of Typhoid Fever.**—Gebauer thinks that it is usually possible to diagnose typhoid fever from the combination of temperature, pulse, roseola, spleen and early diazo reaction. The typhoid tongue and diarrhea are less characteristic but also useful when present, as also the palmoplantar sign, hypoleucocytosis, behavior of the urine and ileocecal phenomena. On the other hand, herpes labialis, icterus, sweats, speak against typhoid infection, as also coryza and conjunctivitis. His article is a comprehensive summary of what has been published on this subject in the last few years.

**121. Roentgen Treatment of Acne.**—Torök and Schein report 7 cases of acne vulgaris treated with the *x*-rays. The results indicate, they say, that this is the most effective and reliable of any method of treatment known to date. These cases were particularly encouraging as the affection had previously resisted every other known means of treatment. It is not invariably effectual as one of the 7 cases was not cured. The acne in this case was very extensive and the *x*-rays, instead of healing up the patches as usual after the second sitting, seemed to aggravate the affection. A diffuse inflammatory infiltration of the skin followed the second application with numerous subcutaneous nodules and superficial folliculitis. A minimal reaction to the rays is not always accompanied by the cure of the acne, but a moderate degree of Röntgen dermatitis should be aimed for. The disadvantages of the treatment are the pigmentation liable to follow in brunette subjects, the possible, slight atrophy of the skin and the exceptionally severe dermatitis reaction. The *x*-rays cause the lanugo hairs to drop out, and evidently check the secretion of sebum. They think that the beneficial action of the rays is due to this action on the sebaceous glands. Their parenchyma becomes more indurated and this explains the lasting benefit derived in nearly every case from Röntgen treatment.

**122. Orthodiagraphy of the Heart.**—Radioscopy of the heart gives very contradictory findings in clinical experience, and Hornung shows that these are due to inherent sources of error in the method itself. He gives cuts of hearts injected with plaster in the cadaver, showing that even extreme dilatation of the heart fails to cast a corresponding shadow, and that deductions based on radioscopy are eminently liable to be misleading. He comments on the implicit confidence of the general practitioner in the announcements from the university medical centers. He never troubles himself to verify the correctness of these announcements, and consequently errors take root and thrive, as in the case of orthodiagraphy (from the Greek term *orthos*, straight.

**123. Placenta Previa.**—The tampon and colpeurynter suffice for the majority of cases of placenta previa, but in case of a very rigid cervix and severe hemorrhage cesarean section may be necessary. Braun-Fernwald affirms further that when severe hemorrhage occurs once or more times during the last months of pregnancy the patient should be artificially delivered. He accomplishes this with a strip of iodoform gauze inserted past the internal os, packing the cervix and vagina tight with gauze. This procedure has always been successful, although it is better adapted for lateral than total placenta previa, as the gauze can be inserted higher up. As a last resort he advocates trying the method of clamping with forceps the uterine arteries as high up as possible. No mishap was observed from so doing in Henkel's 6 and Koblanck's 2 cases thus treated. If this fails, total extirpation by the vagina should follow, and without too long delay.

**125. Intestinal Occlusion.**—In one of the cases described the diagnosis in the case of an elderly woman wavered between carcinoma and simple coprostasis. A strong calomel purge resulted in the expulsion of a hard mass the size of a pigeon's egg, after which all symptoms subsided. The mass proved to be wax, and it was learned that the patient was in the habit of eating large quantities of unstrained honey. In 3 children the occlusion was due to cherry stones, or similar substances, which had accumulated in the rectum and had to be mechanically removed.

**126. Palmar Keratoma.**—Sack has been able to banish these horny tumors by bandaging them with freshly made, sweet cream cheese. The casein in this form has hygroscopic properties like glycerin. It is applied thick and covered with an impermeable dressing, left undisturbed for eight to twelve hours at a time. In a day or two the keratoma scales off to a soft, pink excrescence, which he then treats with a mixture of equal parts of borax and salicylic acid, 5 parts to 10 parts spirit. vin. and 80 parts glycerin.

**128. Diazo Reaction.**—The discredit into which this reaction has fallen in some quarters is ascribed by Ott to lack of proper precautions in the technic.. The reagents must be pure, undecomposed, the urine recently obtained and it must be known that the subject has taken no medicines for some time previously to the test. The proper tint must be obtained. When the test is positive the color is a cherry red or like that of raspberry juice, sometimes with a bluish tinge. The color fades more or less rapidly, but at latest in twenty-four hours, and this fading is an important characteristic of the true test. The color is most marked in the foam induced by shaking the fluid. He attributes great importance to positive findings of this test in the unfavorable prognosis of phthisis.

### Correspondenz-Blatt f. Schweizer Aerzte, Basle.

*Last indexed XLI, page 1510.*

130 (Nos. 10 and 11.) *Zur Diagnose und Behandlung der Nierentuberkulose (renal *tuberculosis*). F. Suter (Basle).
131 *Hydrotherapy in Sciatica. J. B. Cathomas.—Die hydriatische Behandlung der Ischias.
132 (No. 12.) *Gelatin for Prevention of Post-operative Hematoma. Tavel (Berne).—Die Anwendung der Gelatine zur Verhütung postop. Hematome.
133 (No. 13.) Inspection of School Children's Ears. O. Laubi.—Methode und Resultate der Ohrenuntersuchungen von 22,894 Schülern, Zurich.
134 (No. 14.) *Artificially Carbonated Baths. M. Cloetta.—Herstellung kohlensaurer Bäder.
135 Ueber das klassische Werk des Schweizer-Arztes J. K. Peyer: "De glandulis intestinorum." F. v. Mandach. Seventeenth Century.
136 (No. 15.) Ueber Diphtherie-Heil-Serum. E. Wieland.
137 Behandlung des Ischias (sciatica). Glatz (Nice). See No. 11.
138 (No. 16.) Barlow'sche Krankheit (Skorbut der kleinen Kinder). M. Stooss. (Commenced in No. 15.)
139 (No. 17.) Endemic Streptomycosis Bullosa. M. Winkler.—Ueber eine eigenartige benigne Strept. bull. in der Blindenanstalt Könitz bei Bern.
140 Results of Sanatorium Treatment of Tuberculosis in Switzerland. H. Staub.—Ueber die in den schw. Heilanstalten für unbemittelte Lungenkranke erzielten Erfolge.
141 (Nos. 18 and 19.) Ueber die Tuberkulin-Probe. E. Fischer..
142 Influence of Light on Man and Present Status of Outdoor Light Treatment. P. Maag.—Einfluss des Lichts, etc.
143 (No. 20.) Zur Laparotomie bei penetrierendem Bauchschuss (bullet in abdomen). C. Brunner.
144 Technic of Making Mercuric Oxid Salve. P. Knapp.—Die Herstellung und Verwendung der gelben Quecksilberoxydsalbe.
145 (No. 21.) Infantile Mortality and Cows' Diseases. O. Wyss (Zurich).—Kindersterblichkeit im ersten Lebensjahr und Blasenseuche der Milchtiere.

146 (No. 23). Ueber die Diagnostik der accidentellen Herzgeräusche im Kindesalter (heart sounds in children). Rheiner.
147 Cholelithiasis. Chologen-Behandlung Operation. Häberlin.

**130. Renal Tuberculosis.**—Suter reviews 19 cases of tuberculosis of the kidney treated by surgical intervention at Burckhardt's clinic. The mortality was 1/7, generally in cases with a tendency to a rapid course which the operation was powerless to arrest. The cure was complete and permanent in all the cases in which the affection was operated on before the tuberculous process had spread to other organs. When all the morbid parts could be removed the patient was cured. In 2 cases that came to necropsy the other kidney was found perfectly sound, as anticipated, although the bladder and prostate were involved as diagnosed before the operation. The first symptoms are vague; sometimes there is no pain at first, and the urine remains normal until after caseous degeneration of the nodules and communication is established between the cavities and the urinary passages. The bladder is usually assumed to be the seat of the lesion as the presence of pus in pathologic urine causes symptoms on the part of the bladder which are liable to mask those in the kidney. The orifice of the ureter and its vicinity become irritated early by the pathologic urine, and the subjective symptoms are of absolutely no value for the diagnosis of renal tuberculosis. Every case of spontaneous catarrh of the bladder in a subject between 20 and 40 should suggest the probability of tuberculosis of the kidney as the primary affection. The urinary findings correspond to the character of the tuberculous lesions and vary with their different phases. In case of a simple cavity the urine contains traces of albumin and little pus. In case the kidney is more diffusely affected, the proportion of pus and of albumin increases and blood cells may be found. If the kidney is very seriously affected, albumin to 1 or 2 per 1,000 may be found and considerable pus. Tube casts are seldom found and only in the severest cases. He noted them only once in the 19 cases operated on. Bacteriologic examination confirmed the diagnosis in every case. The kidney is by no means always sensitive to pressure, and pain may be referred to the sound mate. The diagnosis must be based principally on the cystoscopic aspect of the orifices of the ureters. In incipient cases they are still normal; in the more advanced, that side of the bladder shows the influence of the pathologic urine.

**131. Hydrotherapy in Sciatica.**—Cathomas comments on the rapid improvement obtained in a number of cases of sciatica after a few Scottish douches. Some of them were old, rebellious cases, but they responded surprisingly to various hydrotherapeutic measures. The results obtained confirm the assertions of Winternitz and others who attribute neuralgias to disturbances in the circulation in the nerves. Glatz in No. 15 also reports excellent results from hydrotherapy in sciatica and other neuralgias.

**132. Gelatin for Prevention of Post-Operative Hematoma.**—Tavel has noticed that post-operative local hemorrhage is most frequent during the summer and attributes this fact to the dilatation of the blood vessels from the heat. Corpulent subjects are most liable to it, while it is rare in children. He has been using for some time local applications of gelatin to insure coagulation of the blood and prevent after-hemorrhage. After the lowest suture has been made he irrigates the wound with his salt-soda solution, and then dabs it partly dry, after which he moistens it with gelatin, drizzling it along the entire extent of the wound from a fused tube, kept previously in a warm sublimate solution. the tip broken off just before using. The upper layers of the wound are then sutured, drizzling with gelatin from time to time. He has not had any post-operative bleeding since he has been following this technic except in operations on the bones; the gelatin is not able to suppress entirely all bleeding in these cases. Before using a new batch of gelatin he is careful to test it with cultures and inoculation of animals.

**134. Inexpensive Artificially Carbonated Baths.**—Cloetta fills a fountain syringe with a solution of $NaHSO_4$ and hangs it above the bathtub filled with water. The tube from the syringe terminates in a T-shaped glass tube with four openings along the branches. This glass tube is passed over the floor of the bathtub after the stopcock is turned, thus sprinkling a layer of the fluid on the floor of the tub. As soon as all the fluid in the syringe has thus been conveyed to the bottom of the bathtub, a corresponding amount of sodium bicarbonate is sprinkled on the surface of the water. As it dissolves only slowly in the water, it settles gradually to the bottom and at once a lively generation of carbonic dioxid results, the gas bubbling through the entire depth of the water, from the floor of the tub to the surface. The degree of carbonation can be controlled; the ingredients are inexpensive and the tub is not injured by them, while the carbonated bath thus produced is in many respects the exact counterpart of the natural carbonated waters.

### Riforma Medica, Palermo.

148 (XIX, No. 45.) Considerazioni intorno ad un caso di ascesso cerebrale. E. Boschi.
149 *Per l'uso del siero antistreptococcico nell' infezione puerperale e nell' erisipela. P. Guizzetti. (Commenced in No. 44.)
150 (No. 46.) Endocardial Musical Souffles. C. Gavazzeni.—Contributo allo studio dei rumori musicali endocardici.
151 Bacteriology of Hernial Fluid in Strangulated Hernia. A. Rodella.—Alcune considerazioni sui resultati dell' esame batteriologico del liquido erniario in ernie strozzate.
152 2 casi di "Ulcus rodens." V. Casoli.
153 Ulteriore contributo intorno alla eliminazione dell' formaldeide. E. Gianelli.

**149. Antistreptococcus Serum in Puerperal Fever and Erysipelas.**—Guizzetti's experiences were all eminently favorable. He gives the particulars of 4 cases of the former and 2 of the latter affection in which this serum treatment was applied. He used serum from the Pasteur Institute and supplemented it with the usual measures.

### Gazzetta degli Ospedali, Milan.

*Last indexed page 70.*

154 (No. 137.) Immunita nelle malattie infettive acute. Immunita antitossica. L. Lucatello (Padua).
155 Immunità antibatteriale. N. Pane (Naples).
156 Acetic Acid for Differentiation of Serous Effusions. F. Rivalta.—Sulla prova dell' acqua acetica, etc.
157 Sulla nefrotossicita dei sieri normali omogenei ed eterogenei. Cioffi (Naples).
158 Gangli del simpatico e tubercolosi. U. Alessi.
159 La Colelitiasi come complicanza della febbre tifoide e la sua cura medica. G. Corsini.
160 Il calomelano nella polmonite. C. Bertazzoli.
161 Cura dell' ectopia inguinale del testicolo con l' orchidopessia. G. Gasparini.
162 Studio dell' infezioni pneumococciche extra-polmonari. L. Maccone.
163 (No. 140.) Sulla teoria ipofisaria della acromegalia. G. Migliacci.
164 Contributo alla statistica della gastroenterostomia. C. Zatti.
165 Anemia. E. Bellboni.
166 *Contro le polluzioni notturne troppo frequenti. A. Campani.
167 Pleurite purulenta guarita coll' inezione di aria atmosferica (cured by injection of air). C. Ricci.

**166. Treatment of Nocturnal Pollutions.**—Campani applies a T bandage to be worn at night. Two or three elastic bands arch over the relaxed member, acting as a restraint during erection, which thus awakens the subject by the pain induced. This simple appliance has cured every case of excessive nocturnal pollutions in his experience.

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## New Patents.

Patents of interest to physicians, etc., Dec. 1 and 8, 1903:

745311. Truss. Joel U. Adams, Cincinnati.
745784. Means for inspecting or testing eyes. John E. Chambers, Chicago.
745785. Warming device for use by invalids. Edward H. Coates, Macon, Ga.
745333. Serum and preparing same. Wm. P. Dunbar, Hamburg, German.
745856. Surgical sling. John F. Janisch, Kirksville, Mo.
745627. Instrument for testing eyes. Christian F. Kantlehner, Chelsea, Mich.
745913. Testing and fumigating apparatus. Milton Schanler, New York.
745685. Death-determining instrument. Jordan E. Storms, Jr., Yonkers, N. Y.
745468. Magnetic tachometer. Arthur P. Warner, Chicago, and C. H. Warner, Beloit, Wis.
746474. Suspensory bandage. Edwin R. Drake, De Land, Fla.
746502. Synthetic milk compound and producing same. Wm. A. Hall, Bellows Falls, Vt.
746336. Artificial leg. James Johnston, Jamaica Plain, Mass.
746338. Anatomical guard, boot or pad. Frederick W. Keen, Boston.
746380. Apparatus for administering anesthetics. Frank M Richardson and J. F. Field, Chicago.
746394. Optometer. Abraham J. Shellman, Grand Rapids, Mich.
746413. Disinfecting apparatus Leon Vandam, Uccle, Belgium.

# The Journal of the American Medical Association

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## Original Articles.

# THE IMPORTANCE OF MEDICAL ORGANIZATION IN SECURING AND ENFORCING MEDICAL LAWS.*

T. J. HAPPEL, A.M., M.D.
TRENTON, TENN.

Repeated efforts to secure medical legislation in Tennessee had failed up to 1889. Our state society had time and again adopted resolutions commending medical legislation as a thing to be desired—an end to be attained—had gone so far as to approve the outlines of a medical act presented, and had appointed a committee to look after the matter at the next meeting of the legislature, even allowing the individual members to expend money (their own) if they so desired, to secure the passage of some act. I say permitting them to spend their own money if they saw fit, as no appropriation was ever made to aid the laudable purpose. Failure after failure was the result of such procedures. It must be remembered, however, that at that time (in the 80's) the Tennessee State Medical Society had a membership of less than 300, the larger percentage of those carried on its roll never being present at or participating in any of its meetings. With a profession in the state numbering 3,300, the state society could lay claim to from 8 to 10 per cent. of its physicians. It is not to be wondered at, then, that medical legislation was so hard to obtain in this state. What is true of Tennessee doubtless is true of most of the other commonwealths of our Union. So long as the profession took no interest in obtaining legislation nothing could be expected.

The first law passed in this state in 1889 was not what was wanted or needed, but was all that could be obtained, having become a law by one vote more than the constitutional majority demanded. The passage of that act was vigorously opposed by some members of our state society, they taking the position that to medical men belonged medical matters and that the politicians and legislators had no part or lot in such affairs. Yet when these opponents of medical legislation were confronted with the question of how to remedy the growing evils of all forms of quackery, no answer could be given by them. They took the position that each town, county or state should regulate its medical matters through the profession in the respective localities. Up to the passage of our first medical law no concert of action could be had on any medical matter. In state sanitation one faction opposed anything that another faction would suggest as right and proper to be done. In every city in the state there were as many factions in the regular profession as there were medical schools, plus one, namely, those who were not connected with any college, and then each other "ism" in medicine represented another dissenter from what was being done. So, then, in Memphis, with only one college, there were the college and anti-college factions, and in addition the eclectic and homeopathic set, though the two last named usually made common cause together; as at the time of the passage of the act of 1889, there were less than a hundred graduated eclectics and less than twenty graduated homeopaths in this state.

Nashville, boasting three white medical schools, had then always four factions, plus the one represented by the other two "isms." And so I might enumerate further. Each medical school was the best in its own estimation, and what one did the other did not; one favored chloroform as an anesthetic, the other ether; one advocated bleeding for puerperal convulsions, another gave chloral; one would press forward one of its own school for any medical position, and another would do all in its power to defeat the applicant and endeavor to supplant him with one bearing its colors. In each community the same condition of things existed. Not more than two physicians in any community were on social terms or often even on speaking terms, and this union of two arose from a community of interests, a common desire to down some other physician. It was a notorious fact, known not only to the medical profession of the state but to the laity also, that but few physicians in a given locality were willing to consult with each other, even in emergency cases. In reply to a call to see a patient, too often the answer was, "Dismiss Dr. A. and I will call and do what I can for you, but I do not speak to or recognize Dr. A. professionally," and Dr. B. was equally as ready to reply in like manner if asked to see a patient under the care of Dr. C. But I need go no further along this line. What was true of Tennessee was equally true of many if not most of the other states.

The first register made of the profession in this state when the act of 1889 was passed, which required every physician in the state who was engaged in the practice of medicine on the 4th day of April of that year to make proof of that fact, either by witnesses or by the presentation of his diploma, showed that of the nearly 3,300 physicians reported by the various county court clerks as complying with the act, 47 per cent. were non-graduates and 53 per cent. were graduates. Of the non-graduates many had never been inside of a medical college of any kind. If any had ever, prior to April 4, 1889, administered a dose of castor oil to a child or adult (though he were a member of his own family) and could prove the same by two reputable witnesses, he was permitted to qualify as a legal practitioner and such registration was reported to the secretary of the board of examiners, and under the law he was forced to accept the report as true, even though he knew the facts to be as above suggested. We could not go "behind the returns." A united profession had not demanded the passage of the act, and those who had, were compelled to be content with what could be gotten, and then to try to mold public opinion favorable to it.

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* Read before the Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7, 1903.

In one of the counties of the state where a county medical society had been in active existence since 1882, it was not difficult to have at each succeeding county convention her nominees for the legislature instructed to support any medical legislation desired by the county society. The members of the medical profession in that county were not politicians in the sense of seeking office, or of neglecting their professional duties, but each one felt the full measure of the duties of a citizen resting on him to take part in his district and county convention, and did not hesitate to say that he favored this or that candidate. The physicians in that county were model citizens—men who thought about public matters and could readily give an answer to questions in regard to such matters, especially those pertaining to the affairs of their state, that might be propounded to them.

Other counties where no such organization existed, where personal rivalries and professional jealousies precluded the possibility of a medical organization, could do nothing. No united front could be presented by the physicians on any public question, and when Dr. A. ventured to call on his nominee for a promise in regard to medical legislation, he was met with the reply that Dr. B. had just made the opposite request, that he should oppose any such legislation, and that such being the case he could not bind himself to any special line of conduct in regard to these matters. When any medical question was up for discussion and a vote drew nigh he conveniently absented himself or voted in the negative. As county medical societies increased in numbers, medical legislation could be more and more easily attained.

In 1897 it became possible for us to get an amendment through both houses by good majorities requiring all, whether graduates or not, who desired to begin the practice of medicine to come before the board for examination. The same legislature passed a law distributing the unclaimed dead from our penitentiary and insane asylums between the medical colleges of the state. In the next legislature the medical students in the colleges in Nashville raised a sum of money and secured the services of attorneys (one of them being a member of the legislature) to have the amendment of 1897 repealed. These students from every quarter of the state appealed to their senators and representatives to vote for repeal of the act on the ground that a diploma obtained on three courses of lectures should be sufficient license on which to base a right to practice medicine. When a few members of the medical faculties in Nashville attempted to stay the current in favor of repeal, they were met with the threat that unless they ceased their efforts, which were beginning to avail, against the repeal, the "Stiff Bill" would be wiped off of the statute books. All ceased opposition, with the exception of a representative or two from one of the colleges, and left medical legislation to its fate. To these exceptions all honor is due. There was not enough of union or unity of purpose to enable and induce all to act together. The loaves and fishes of self-interest outweighed *the claims of the whole profession. As with individuals, so it seems to have been in medical schools.* The fear of individual loss causes many to do what they would not otherwise do. This plain statement of facts is not intended to be nor is it a reflection on the medical profession of Tennessee. No doubt under the same or similar circumstances in other states, there would have been the same results. There was no organization among the schools or medical profession at that time. Politicians knowing that condition to exist, availed themselves of professional jealousies to accomplish the emasculation of medical law. The result of this amendment of the medical restrictions in this state, caused the profession to realize the necessity of "getting together," and at the next meeting of our state society, which was held in April of that year in Nashville, the physician, who delivered the welcome address said with much emphasis that the time had come when every member of the legislature who had voted to virtually repeal all medical restrictions in the state should be remembered by the physicians in every county, and their return to the next legislature prevented so far as medical opposition could avail.

Medical organization received a fresh impetus in this *state from the stab it had received in what should have* been the house of its friends. *But in reviewing the action of the legislature of that year, a different course* could not reasonably have been expected. The students were organized from all parts of the state to secure the repeal of the "examining clause," and the profession of the state left the examining board alone to oppose such action—six men resisting 500, not one of the six being related by any ties to any member of the legislature, while many of the students were either sons or nephews.

Wherever the medical profession has presented any semblance of a united demand for any legislation, *it has been gotten not only in this state, but in all others of the* body politic. No man wields more influence in his own voting precinct than does the physician who lives and practices therein, if he be what everyone who claims to be a disciple of Æsculapius should be. As stated by Dr. McCormack in an address before the North Carolina State Medical Association, the physician should be the best man in every sense of the term in any community. He should be well educated, well dressed, of irreproachable morals—should be, to sum it all up, a man *"sans peur et sans reproche," "sans tâche."* I desire to add that he should be not only such a man as portrayed above, but he should be a good citizen. He should take an interest in public affairs, should have an opinion about public matters, and should not hesitate on proper occasions to give expression to those opinions. He should not obtrude himself or his opinions on others, but when called on he should be ready to give a reason for the faith that is in him. A physician who knows nothing outside of a medical book may be fit to live in a city, but we in the country do not want him. There must be in him a large element of common sense in addition to book erudition. As was said by Dr. I. N. Love in the *Medical Mirror:* "He should not begin life as a physician with the idea that he can not also be a citizen in the true sense of the term." Anyone can be, as the Latins expressed it, a *"homo,"* but not everyone a *"vir."* A physician must be more than a human being—he must be a manly man who takes part in all public matters and is not afraid to express an opinion about them when occasion demands. He must not carry a "chip on his shoulder," for some one will knock it off;

he must not attempt "to face both ways on his horse"; he can not do it. It has been truly said that you can fool some people all of the time and all of the people some of the time, but you can not fool all of the people all of the time. A physician should be a Christian gentleman, and if you want a type of such an one as a model study, take Nehemiah of the Old Testament. Be what he was and you will fill the full measure of your citizenship.

With these requirements met as to the personnel of the profession and county and state organizations, any legislation, as already stated, that is desired and that can be defended as just and equitable, as protecting not the profession of medicine alone, but as safeguarding the interests of the *"hoi polloi"* as well, can be secured. But one objects that this idea of obtaining medical legislation through organized medicine is abandoning an old landmark, is dabbling in politics, or as our "holier than thou" brethren are pleased to say, the "dirty pool of political scheming." The very reason that politics has in these latter days become dirty is due to the fact that the better element holds itself aloof and allows the government of most of our municipalities and too often the legislatures of our states to be dominated by the rabble.

Dr. Hawley, in a paper[1] read before the American Academy of Medicine at Saratoga, made the following correct statement about the relation of the physician to politics:

> In every community the physician is looked on as belonging to an educated, cultured and refined profession. He is naturally accorded a high position to make an impression on public opinion. The physician, by his preliminary and professional training, possesses a degree of mental vigor and refinement above the average citizen. Further, the physician, and especially the country physician, from the nature of his calling and environment is a close observer and generally a correct interpreter of his observations. Thrown continuously in contact with important and vital questions, and often on his own resources alone, he learns to observe carefully and quickly, to reason rapidly, and to act at once. He is a man who is obliged to depend on himself, to draw his own conclusions and to work out his own problems. His daily work and experience, therefore, tend to cultivate a keenness of insight, a power of discrimination and independence of judgment, which will enable him intelligently to grapple with the important questions which are vital to the interests of his state or his municipality.
>
> Further, the physician is better acquainted with men, and has a better knowledge of human nature than the average citizen, and, therefore, is in a position to understand thoroughly many of the requirements of the community. From technical knowledge and experience the physician is especially qualified to render valuable services to the community in matters relating to public health and sanitation, water supply, plumbing, drainage, sewerage, ventilation, schoolhouse construction, etc.

Another desideratum to be attained in connection with this subject of our organization is the lessening of the number of medical colleges run chiefly for individual profit; but as this subject was so ably handled by Dr. Frank Billings in his most excellent presidential address[2] before the American Medical Association at New Orleans, I will not consume your time in discussing it. In Tennessee we have seven white and five colored medical schools, besides one or two fraudulent ones, while our neighboring state of Kentucky, though not quite as well supplied, has enough and to spare. As the personal interest of the individual too often predominates over other interests, concert of action where so many schools exist—run in nearly all cases for the sake of making money—is a utopian ideal. Nashville and Louisville are each large enough for one school, and yet how many have each place?

Taking up the second branch of my subject, viz., the importance of medical organization in the *enforcing* of medical laws, I must be pardoned, should I make use of some ideas that I have already advanced in THE JOURNAL.[3] If it is difficult to procure medical legislation without medical organization, it is still more difficult to prevent the repeal of such laws and much more difficult to enforce them. Violators of the law will not oppose the existence of a statute—its presence on the statute books—unless it is enforced. So long as the law remains a dead letter it is not to be dreaded, but so soon as an effort is made to carry out its provisions, then it is resisted. In no state, perhaps, has a medical regulation act been passed which has not been attacked on grounds of unconstitutionality, and in most cases unsuccessfully. The highest judicial tribunals have almost invariably held such laws constitutional under the broad mantle of police supervision. When an effort to have such a law declared void has failed, the next step is to endeavor to influence the law makers to repeal, and, failing therein, to amend it in such way as to emasculate it, to render it powerless to accomplish that for which it was originally passed. The amendment is far easier to obtain than the repeal, and these amendments may be of such a nature as to appeal to the vanity of the legislators, such, for example, as exempting from the provision of the act graduates of state schools, and in this way render the act obnoxious to those who have seen fit to obtain a medical education outside of the confines of their own state. The plausible plea of encouraging home institutions and protecting their graduates to such an extent as to induce all to graduate at home, will have weight with many law makers, and on the floors of many law-making bodies the disinterested (?) member has been heard to declaim on the pride that one should take in a diploma issued by one of our great institutions of learning, the inside of none of which he has ever seen except as a mere passer through. These demands for amendment or repeal can be met successfully only as they were passed, by the efforts of a united profession. The same influences must be brought into action to prevent repeal or amendment as were used to secure the passage of these laws.

But when a law has been passed and its repeal or amendment has failed, the successful enforcement of it is perhaps the most difficult matter yet to meet. Many who have not complied with the requirements of the act are able to and do secure to defend them in its violation, some of the very men who voted to pass the law and even spoke for it originally. This I know to have occurred in our own state. All kinds of excuses are presented for failure to comply with the law—from ignorance of the existence of the law up to a refusal without excuse to comply with it. The numbers of physicians who belong to the lists of those neglecting and those defying is large and they, making common cause with traveling quacks and charlatans who furnished the money for the legal battles, present a menace to the successful enforcement of the medical laws.

Again, the profession is disposed to think that because the act gives the grand juries inquisitorial power over all violators of the law, and because the judge is required to give the act in charge, that everything will be done that can be done without further action on the part of the profession. Never did a more erroneous idea creep into and take possession of the minds of reasonable and reasoning beings. The judge and prosecuting attorney were elected by the votes of their constituents, of whom the violators of the medical act are integral parts, representing just so many votes. Instead of charging the act to the grand jury, it is overlooked and neglected, or if it is given in charge, it is done in such a way that that body soon learns that nothing is expected or wanted by the judge along that line; and the attorney-general, who is serving for a fixed salary, summons no witnesses. If, however, the county medical society, an organized body, having on its roll every reputable physician in the county, furnishes him with the names of witnesses in any case and says to him that they demand that the law be enforced, then it is done promptly. What Dr. A. as an individual could not secure, Dr. A. or Dr. B. as the accredited representative of the county medical society, easily succeeds in getting done. But to depend on a salaried prosecuting official to attend to the violators of the law, is to show a willingness to leave them as dead letters. He feels that a prosecution of such cases will make the defendant and all his friends enemies of himself, and his work is done in a half-hearted way. To successfully enforce the law, an attorney must be employed either by the examining board or by the county society. An attorney acting for the board, the state or the county society will take a deeper interest in his work than a salaried official will do. With him it will be a matter of pride to convict the offender, while the salaried official will proceed in a perfunctory manner to discharge his duty, not caring for results. The attorney representing the board or society will know too that the continuation of his employment will depend on the zeal displayed in and the success of his efforts. An attorney who wins no cases will soon be replaced by another.

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[1] THE JOURNAL A. M. A., June 21, 1902, p. 1665.

[2] THE JOURNAL A. M. A., May 9, 1903.

[3] THE JOURNAL A. M. A., Nov. 16, 1901, p. 1301.

In this state it has not been difficult to secure convictions when we have proceeded as above, but a jury ordinarily assesses the lowest possible fine and if a number of indictments are not secured against the offender, but little is done to stop his illegal work. This is a serious trouble where advertisers who travel from county to county are concerned. They reap a rich harvest from their unsuspecting victims, and when arrested plead guilty before some magistrate, begging the leniency of the court, getting as small a fine as possible. This they pay, and at once leave for newer pastures further from the oversight of the board, where no organized medical society exists, and ply their trade rapidly until reported again. A new attorney has then to be secured before anything can be done, and in the interim they gather in the coin and are ready to pay the new fine and move. This can be kept up indefinitely when the medical profession lacks organization, but when they are organized they soon force the quack to leave the state; but when the county medical society lacks backbone enough to report such cases and to aid in their prosecution by securing an attorney willing and ready to act, no matter how zealous the board of examiners is, no prompt enforcement of the medical law can be secured. There must be the most hearty co-operation on the part of the board of examiners and the county and state organization. With such concert of action, the possibility of the medical profession, both in securing and in enforcing reasonable legislation, can not be fairly and fully estimated. In proportion as the individual failed, organized medicine will succeed.

Going a few steps farther than I intended as the scope of this paper, I may be permitted to add that when the American Medical Association has drawn into its folds the members of the medical profession who should legally belong to it, there will be no trouble to secure a department of public health, with a medical officer at its head as a member of the President's cabinet, and reciprocity in medical licensure will no longer be an idle dream. Uniform medical laws can be passed in all the states of the Union, with only such variations as may be demanded by the constitutions or laws of the different states; and then all the requirements can be made so nearly alike for license to practice medicine and the examinations on such an equal basis that a license issued in one state will be accepted in another without question.

# SOURCES OF PLAGUE.*

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This subject involves a discussion of the early and present pandemics, cardinal features of the viability and dissemination of *Bacillus pestis* and the transmission of plague.

## HISTORICAL SKETCH.

While indefinite statements regarding plague are found in the earliest writings, no definite knowledge of this disease has been found until the writings of Rufus of Ephesus regarding plague in Egypt in the second century B. C. At this time the disease was present in lower Egypt, spread along the coast of the Mediterranean and existed as a pandemic for an unknown period. Numerous detailed accounts give positive data that this pandemic was the same disease as that now known as bubonic plague. During this period war, drought and famines were prevalent throughout the world. During the centuries following this pandemic, numerous references to plagues are found, but each is too indefinite to warrant a diagnostication of bubonic plague.

In the Justinian age, beginning about 540 A. D., plague reappeared in pandemic form. Starting in lower Egypt, especially Pelusium, the disease spread along the shores of the Mediterranean to Asia Minor and Europe. In this pandemic plague existed in a given locality one, two or three years, disappeared to probably return at a later time. The nature of the disease was similar in most respects to what we now know as plague. This pandemic continued for fifty or sixty years, and in all probability gradually died out. In this age wars, droughts and famines were also prevalent. During the middle ages numerous references to plagues are found, but again they are too indefinite to enable us to distinguish the nature of the disease. It is most probable that plague played an important rôle in all these epidemics.

In the fourteenth century plague again reappeared in pandemic form throughout the civilized world. This time the disease began in western Asia, traveled to Asia Minor, thence to Egypt, Europe and Russia. During this pandemic some places were infected only a few months, others for several years, while in others epidemics continued for one or two years, after which the disease disappeared to again reappear after a longer or shorter time. Again, war, droughts and famine were prevalent. Several centers, so to speak, became temporary distributing points for the disease. Of these, Egypt in Africa, Turkey in Europe, and Syria in Asia were the most important. Again in these countries the disease remained more or less active for three centuries, giving rise, from time to time, to epidemics in neighboring countries. As the centuries wore on, the number of epidemics gradually diminished until 1841, when the last epidemic of plague occurred in Constantinople. In recent times Arabia was visited by epidemics in 1853, 1874 and 1879, Tripoli in 1874, Persia in 1863 to 1878, Messapotamia from 1866 to 1876, and in Astrakhan in 1878.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

From 1879 until 1894 the world was practically free from plague, but in the latter year an increased death rate among the Chinese at Hong Kong was observed, an investigation of which revealed the presence of bubonic plague, not only in Hong Kong, but also in Canton, where it probably came from Lientschau and Pakhoi. Since then the disease has spread to India, Japan, the Philippines, numerous ports along the route to Europe, South America, South Africa, Portugal, England, San Francisco, Mexico and many other localities. We are, then, in the midst of another pandemic of bubonic plague. Thus plague has spread over the world in at least four pandemics. First, in the second century, second in the Justinian age, the third in the fourteenth, and the fourth in the nineteenth century.

A brief summary of the observations on these pandemics reveals the following:

*As to Origin.*—No mention is made regarding the origin of the pandemic in the second century B. C. In that of the Justinian age the disease began in lower Egypt to spread over the then known world. During this pandemic new infected centers of plague were established in western Asia, where the third pandemic in the fourteenth century arose. During the third pandemic new centers were established in southern China to give rise to the present pandemic in the neighborhood of Canton. Thus plague has shifted its home from Egypt to western Asia, and later to southeast China, remaining throughout the centuries in tropical and subtropical climates.

*As to Infected Centers.*—Probably owing to more accurate detailed records, plague has in each of the latter pandemics formed new temporary centers from which the disease spread over the neighboring countries. Of these, Constantinople in the fourteenth century, and Hong Kong and Bombay in the present pandemic are notable instances. In these centers the disease may occur from year to year or at irregular intervals in epidemic form, or its presence may be shown by occasional cases.

*As to Routes Traveled.*—During each pandemic the disease has followed the great paths of commerce. In the second century B. C. it spread along the coast of the Mediterranean; in the Justinian age, along the same routes to Asia Minor, thence to Europe and western Asia; in the fourteenth century, from western Asia to Asia Minor, thence to Egypt, Europe and Russia, and in the nineteenth century from south China to Canton, to Hong Kong, thence throughout the world.

*As to Classes Affected.*—All races have been affected, especially the lower classes. Among the higher classes, living in the better districts of a city, the servants, as a rule, suffered. History abounds with instances of domestic and wild animals suffering from severe epidemics.

*As to Modes of Dissemination.*—Here records are liable to lead astray, for even now much mystery surrounds the dissemination of plague. It has been noted that clothing and articles of commerce have served to transport the disease, and the migration of rats, etc., has been observed.

*Historical Recapitulation.*—In each pandemic a new endemic home was established, first, in Egypt; second, in western Asia; third, in southeast China; temporary infected centers were established from which the disease spread in epidemic form; given localities were again and again infected; pandemics lasted from fifty to sixty years; in infected centers plague remained more or less active for several centuries, and the lower classes were mostly affected.

As the present pandemic first originated in Lientschau, then extended to Canton, from Canton to Hong Kong, thence to the civilized world, it is important to relate briefly the existing conditions in south China. The entire southern portion of China is thickly inhabited, with a large number of densely populated cities. Of these the most important, geographically and commercially, is Canton, which is located on the Pearl River about ninety miles northwest of Hong Kong, with which it is in intimate intercourse by water and land. It is a filthy, densely populated, poorly constructed city, consequently unhygienic conditions exist. Living under these conditions, the natives have a lowered resistance to infection of all kinds, consequently epidemic diseases are most prevalent. On account of the filth and customs of the people, rats and insects are abundant. Similar conditions exist in all Chinese cities.

## FEATURES OF THE BACILLUS.

The *Bacillus pestis*, discovered by Kitasato and Yersin in 1894, grows luxuriantly in all ordinary culture media, even under disadvantageous conditions. As our knowledge of this organism increases, its power to maintain life and virulence under unfavorable conditions becomes of more and more importance. It has been found that the organism lived nineteen days in the sunlight and twenty-three days in darkness, at ordinary room temperature; twenty-two days in a desiccator; eleven days in a thermostat; one hour in a temperature of 60 C., and fifteen minutes at 80 C. The German Commission found virulent organisms in sputum after ten days; Martini in sputum of a pneumonic case after seventy-six days; Abel in sterile water after twenty; Hankin in various cereals after thirteen; Jakote in buried plague cadavers after thirty, and in dried pulverized organisms of animals dead of plague after forty-eight. On dried paper kept in a thermostat, organisms have been recovered after forty-four days, and in direct sunlight, after from three to six hours. Under favorable conditions, as on culture media, the organism lives indefinitely. Its virulence, even in old cultures, is frequently as great as in young ones. The finding of bacilli which rapidly regained their virulence in cotton goods by Kitasato is one of the most important links in tracing plague from one country to another. When plague was discovered in Kobe, Japan, it was found that a large consignment of cotton goods had recently been received from Bombay. Two hundred tubes were inoculated with portions of these goods, from one of which a virulent plague culture was obtained. Several dead rats were also found in bales of cotton. It is more than probable that by this means plague was introduced into Japan.

These facts demonstrate the resistance of *Bacillus pestis* to dryness and a moderate degree of heat for an undetermined period, and suffice to explain the origin of succeeding annual epidemics in a given locality, and to show one route and means of carrying the disease from one country to another.

The susceptibility of rats, mice, domestic animals, flies, flees, ants, etc., serves to preserve the life and virulence of the bacilli, and to spread them in accessible places. The migration of rats, etc., may serve to carry infection to neighboring districts.

As bacilli have been found in the blood during a period of forty-five days, and in sputum for seventy-six days, convalescent patients may be a means for carrying the disease from one district to another, or even to distant lands.

Returning to the origin of the present pandemic, it is more than probable that during the pandemic of the fourteenth century, or the numerous epidemics of the following three centuries, south China was visited by plague when a new endemic home was established. After an indefinite time the disease increased, extending by ordinary routes of travel, in merchandise, etc., from outlying districts to Canton, where, favored by the filthy, crowded condition of the city, an extensive epidemic immediately developed. Here merchandise of all kinds comes in intimate contact with infectious material, and undoubtedly harbors more or less bacilli. Hong Kong, the port of Canton, undoubtedly received its infection from Canton by means of merchandise, individuals who might have contracted the disease in Canton and developed it in Hong Kong, or possibly by means of rats boarding steamers at Canton.

Hong Kong is one of the most important shipping centers in the Orient. Here practically all vessels plying in Oriental waters touch for coal, cargo and the transshipment of cargo, all of which are handled by Chinese coolies who live in the plague districts of the city. In addition to cargo, rats in large numbers often board the steamers to be transported to distant ports.

In the spring of 1894 plague spread from Canton to Hong Kong, thence to a number of coast towns in southern China, and later to many distant ports, or in other words, the disease followed the ordinary routes of travel.

In the present pandemic Canton and Hong Kong are the chief distributing centers for the world, thus history is repeating itself. Consequently we may anticipate the presence of plague in these cities for an indefinite period to give rise to epidemics of plague at irregular intervals in various portions of the world.

## TRANSMISSION OF PLAGUE.

Transmission of plague is best considered under the headings of *portals of entry*, direct and indirect transmission.

*Portals of Entry.*—On account of the absence of local reaction in the great percentage of cases much doubt exists as to the real portal of entry. This is made more prominent by the slight local reaction found in the small number of cases in which a primary sore is found. Here almost no change in the surrounding tissues are noted, frequently only a slight lymphangitis is observed, and usually the first lymphatic gland draining the infected area is the primary bubo. The absence of a slight local reaction about a primary sore leads one to think that a small wound in the skin might be infected without visible local reaction.

Experimentation on lower animals shows about the inoculated area an intense edema, more or less hemorrhage, and considerable infiltration, with the lymphatic glands draining this area enlarged, hyperemic, and often hemorrhagic. It must be remembered that in experimentation a very large number of bacilli must be inoculated. As in all of these experiments lymphatic glands draining the inoculated area are the first affected, it seems most reasonable to suppose that primary buboes in human beings indicate the region through which the infection was received. In the unshod Oriental races about 60 per cent. of primary buboes are femoral or inguinal, 25 per cent. axillary and the remaining cervical. These percentages fairly accurately represent the relative exposure of the several regions to infectious material. The relative frequency of primary buboes in children strengthens this supposition. Here the largest percentage is found in the cervical regions, next in the axillary and inguinal, and femoral least of all. It is well known that whenever possible a child will put everything into its mouth, and is inclined to play on the ground, where the hands are more liable to infection than the feet. As the larger percentage of cases are of the bubonic type, it seems most reasonable to suppose infection is received through superficial wounds in the skin and mucous membranes of the mouth and nose.

The apparent immunity of oil workers and those well clothed seems to favor the opinion that infection is most often received through the skin.

Wilms thinks the digestive tract is an important portal of entry, but numerous observers doubt its importance. In two epidemics I saw no evidence of infection through this tract. Experimentally primary mesenteric buboes have been observed.

Infection through the lungs undoubtedly occurs, especially in pneumonic cases. Deane considers the pulmonary tract the most important portal. If this were true, it would be as difficult to explain the absence of local pulmonary changes in the great percentage of cases as it is to account for the lack of local reaction in skin wounds. Again, it would be difficult to explain the distribution of primary buboes if the bacilli entered through the lungs.

Some evidence points to the sexual organs as a portal, but more observation is needed to establish this fact.

*Direct Transmission.*—Here the most important feature is the infected human body. As septicemia develops, all organs, secretions and excretions become infected. Of especial importance are the urine, feces and sputum. In pneumonic cases the sputum is laden with bacilli, and in delirious cases is a dangerous source of infection, as the bacilli may be spread broadcast about the room and over those in attendance. Here the resistance of the organism to dryness is of great importance.

Owing to hemorrhages in the stomach cases in which vomiting is present are liable to infect the surroundings. Pus from buboes and serum from primary sores, etc., are also infectious. The cadaver is teeming with organisms, consequently is a source of infection until destroyed.

Naturally, all attendants are continually exposed to these various sources of infection, and it is astonishing that so few of them contract the disease. Perhaps the constant exposure develops a sense of precaution carried out in the minutest details. Many instances of direct transmission of plague from lower animals to man are on record, but generally speaking, direct transmission plays an unimportant rôle in the dissemination of plague; as an evidence, the small number of attendants in plague hospitals contracting the disease may be cited.

*Indirect Transmission.*—Here the degree of viability and virulence of the organism is an essential feature. As the *Bacillus pestis* is a long-lived organism, and as the excreta, etc., are ladened with bacilli, all material coming in contact with the sick or kept in houses in which patients have been kept may serve to harbor and transport infectious material to those handling these goods.

Dust arising from infected places may be infectious for an undetermined time, certainly much longer than was formerly supposed. No positive evidence to show that water may transmit the disease is at hand. Perhaps the most fruitful sources of infection are the dark, poorly ventilated, filthy houses inhabited by the lower classes. There the organisms might easily remain alive and virulent over long periods, to be picked up by the unshod or otherwise exposed inmates.

Perhaps the best evidence of the importance of indirect transmission is the fact that those well protected by good clothing and shoes and living in fairly good hygienic condition rarely contract the disease.

In conclusion, it may be said that plague sprang from Egypt, formed new endemic homes, and traveled along the routes of commerce. The *Bacillus pestis* is long-lived, and may be carried from place to place in merchandise, by rats, etc., and by convalescents; the disease thrives best in unhygienic places, and the lower classes are mostly affected.

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## THE PROPHYLAXIS OF PLAGUE.*

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The *sine qua non* in plague prophylaxis is the diagnosis. This is not so easy a matter as some are led to believe. The many forms which plague infection may assume, taken together with its insidious character, the inexperience of the medical profession of a given place, may render its recognition extremely difficult, even notwithstanding the fact that accurate methods of examination can, with certainty, be relied on to detect it.

The chief difficulty, however, which confronts one is that it may be so easily diagnosed as one of certain diseases of local origin, which it may so closely resemble, that it is an easy matter to overlook it. If the first cases were of the frank type—the bubonic—the task would be made easy. As a rule, this does not occur, and the ease in recognizing them as advocated by some is more a theory than a condition.

The clinical manifestations of plague are almost as varied as those attributed to malaria. Cases may resemble in whole or in part, and have been confounded with anthrax, pneumonia, diphtheria, bronchitis, pleurisy, pericarditis, endocarditis, peritonitis, appendicitis, rheumatic, typhoid, typhus, relapsing and malarial fevers, miliary tubercle, dysentery, beri-beri, syphilis, venereal bubo, mumps, septicemia and adenitis.

While it goes without saying that if it were the custom or the rule to apply accurate examinations to all cases in the foregoing list, nearly, if not all, the first cases would be detected, but we know that there are so many obstacles in the way for such procedures that it would be impracticable to carry them out, even if the medical profession were willing or able to do so.

If, on the contrary, all the first cases of plague infection were to be found in well-appointed hospitals, where accurate observations could be carried out, these would give us little concern. But this does not obtain. The first cases, as a rule, do not go to hospitals; in fact, only a few filter in, the greater number being found in localities where one is least expecting them and usually among a class of persons who naturally oppose the unwarranted (?) and presumptuous interference of the health authorities, or the physician who may have suspicions. Many cases occur under these conditions, and are not seen by anyone before the services of an undertaker or coroner are required. It is remarkable how resourceful this class of persons is in attesting to the non-infectious nature of the malady which has carried off their relative and friend.

To give a few illustrative experiences on the difficulties of a diagnosis: A case of illness occurred in San Francisco which, clinically, was that of typhoid fever, and passed muster as such, and three weeks later the autopsy and bacteriologic findings were those of plague. Another case was clinically that of diphtheria, but no cultures were made from the throat; antitoxin was administered when the case was moribund. During his last hours, while in delirium, he coughed and spat in the nurse's face, some of the sputum entering the eye. The nurse was immediately immunized with a large dose of diphtheria antitoxin. Despite this precaution she became ill within less than 30 hours, and died of an acute fever four days later. Autopsy revealed an acute septicemia, due to plague. Another gave a typical clinical history of lobar pneumonia, and the death certificate was made out accordingly. The room in which the patient died was closed for two weeks, when it was occupied by a woman and child. Four or five days after occupancy both became ill, one with bubonic, the other with pneumonic plague. A case was diagnosed as phlegmonous erysipelas, and was treated as such for 10 days, but on postmortem examination plague bacilli were isolated from the phlegmonous tissues, the heart's blood and spleen. Another case occurring soon after certainly did present the evidences of acute myocarditis. The blood, however, showed leucocytosis and pest-like bacilli. The autopsy was confirmatory of plague septicemia.

In Hong Kong I saw in consultation a case which all of us agreed was one of acute appendicitis, requiring immediate surgical interference. The blood showed considerable increase in the number of white blood cells, and many malarial parasites. The surgeon concluded to wait until quinin had been administered. On the next day the patient was worse, temperature higher, slight effusion into the peritoneum. The operation was deferred, and death occurred on the next day. Autopsy revealed a plague infection of the retroperitoneal glands near the appendix. In a case of a child in Manila presenting all the symptoms of a catarrhal pneumonia, autopsy confirmatory, the bacteriologic examination showed the cause to be plague bacillus.

The macroscopic appearances of organs and tissues of pest infections are, as a rule, quite distinctive. There is a respectable number of these in which there is scarcely anything suggestive of plague infection; yet the bacteriologic examination will reveal pest bacilli in all. Mixed infections may also be misleading, as instanced in the case diagnosed as appendicitis and in cases of beri-beri with an intercurrent infection of plague.

A vessel arrived at one of our quarantine stations with many cases of beri-beri aboard. Several had died en route or soon after arrival. Specimens of organs removed from a case just dead were examined bacteriologically and the pest bacillus isolated. The macroscopic, as well as the microscopic, appearances of the tissues were typical of those of beri-beri.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

The lesions observed in a respectable number of plague cadavers, both in San Francisco and in Hong Kong, were about as varied as one could wish to see. Those in Hong Kong occurred at the time of year which might be termed, for want of a better name, the post-epidemic period when the disease was declining; that is to say, when the number of cases were fewest. In these, the frank bubonic type was of rare occurrence, the septicemic type preponderating. Probably many of these do occur during the time when the epidemic is at its height and are overlooked. These cases certainly do occur in the pre-epidemic period and are not recognized as plague. Some of these are mild, ending in recovery; others are disposed of under a mistaken diagnosis. Viewed from a public health standpoint, these cases are of the greatest importance, and are, it is believed, one of the chief sources perpetuating the infection. These are some of the obstacles which stand in the way of a correct diagnosis, and are mentioned simply to emphasize the importance of making a careful and painstaking examination of every case wherein there is a possibility of plague infection. If such could be done, the majority of these masked cases would be recognized, yet some will be overlooked, even after the most painstaking examination, because of our inability to isolate the organism *intra vitam* or postmortem.

Plague, like cholera or bacillary dysentery, may show the same variations of virulence. It may be at first slight, and require a time more or less long before it assumes a virulence sufficient to cause an epidemic. On the other hand, it may remain for a long time in a locality making but little progress. Climatic conditions play no small part in its epidemicity. In such places as Hong Kong, Canton, Amoy and Manila it is certainly influenced by the temperature and humidity. The disease begins to assume its epidemic character during the warm rainy season, gradually increasing in intensity until the end, when it declines. It has been noted that when the temperature reaches 80 F. and is constant it declines gradually, reaching its lowest ebb just before the rainy season begins again.

While this condition obtains in the aforementioned places, it shows quite the opposite in California, where the greatest number of cases have occurred during the dry season. Seasonal influences appear, then, to have also something to do with the type of the disease, particularly in Hong Kong, where during the rainy season the majority of cases are bubonic; in the dry season, when the temperature is high and constant, nearly all the cases are septicemic. Just why there are these variations in type, or frequency of infection, can not be explained.

The ambulant type is not so much a factor in the dissemination of plague as some have been led to believe. The experiences of the health authorities of Hong Kong, Manila and at the Japanese ports all agree that these cases are extremely rare. My own experience, while not so extensive as that of others, is confirmatory. During 1899 to 1901, in over 50,000 persons examined for the apprehension of just such cases, out of these not more than 6 suspects were found—two on a vessel undoubtedly infected. These were kept under surveillance and a most rigid examination made of them; yet, notwithstanding this, the cause was not found to be other than plague.

The disease is a filthy one, and, like water, seeks its level among conditions which are ideal for its propagation and dissemination. Some years ago I made a statement that so long as the Chinese exclusion act was in force there would be little or no danger of the introduction of plague from the Orient. Since then I have learned that the Chinese exclusion act does not exclude, in the strict sense of the word, and particularly so from a health standpoint. There is a constant interchange going on of the Chinese coolie population between China, the United States and its territories, this interchange being provided for by special regulations. There also must be considered a number of persons who are debarred under the provisions of the act who seek admission through other channels not contemplated or specifically provided for. There can be no question that a respectable number of such persons do gain entrance to the United States. Another feature in the trans-Pacific traffic is the increasing importations of commodities from the Orient, which must be given due weight as a factor in the transmission of plague. It is farthest from our purpose to cast undue reflections on our own people, but there are certain conditions at present existing and constantly increasing which can not be viewed without concern.

There are many localities in our country which by reason of climatic conditions and race habit are ideal for the propagation of plague. The constant influx of foreign populations of low standard gravitating to many of our urban centers, is gradually forming the nucleus of material for epidemics, and is by reason of this influx becoming a serious problem in our public health work. With regard to the Chinese population, it is without doubt the worst of all as regards plague. There are now about 120,000 Chinese located in the United States, the majority of whom are on the western coast. These are controlled, and I may say absolutely, by that great and powerful organization known as the Chinese Benevolent Association, or The Six Companies. The rule of this organization over its subjects is as autocratic as the Sultan of Morocco or the Shah of Persia. The Chinese of the eastern coast are controlled by another organization of similar nature which is no less autocratic. These two instances are cited to show the manner of controlling the Chinese, and because bubonic plague has appeared among this people, and for offering an explanation in part of the difficulties which have stood in the way of its eradication among them. Some observers believe that little or no progress will be made in the detection of cases of plague among the Chinese, if a postmortem examination is insisted on, because of the strong race prejudice against them, as it will tend to the concealment of cases and more harm will follow than good accomplished. From our own observations this is only partly true. It is not so much due to prejudice of the Chinese against the examinations so much as their fear of their tong, or tribal customs and government being interfered with by western ideas. The Chinese desire to be let alone. The depositing of their dead on the streets, the concealment of cases, or the surreptitious removal of the moribund to the "Halls of Tranquility" is not so much their fear of a desecration of the dead as that of interference with their commercial and social life by the sanitary authorities. A careful examination of all sick of a Chinese community where plague is once detected, and a postmortem examination of all dead is the only way in which all plague cases will be found.

### MEASURES TO BE DIRECTED TO THE INDIVIDUAL SUSPECTED OF BEING AFFECTED WITH THE PLAGUE.

The suspected case should be isolated. The isolation should be all the term implies. Pending the completion of a diagnosis the same care should be exercised as if it were proven to be plague, and as soon as the examination is complete it should be removed to a hospital provided for infectious diseases, where the dangers of infection can be best controlled and where the case can be medically and humanely treated.

The premises in which the case is discovered should be regarded as infected—doubly so if it can not be definitely proven that the infection was contracted elsewhere. The house should be evacuated and be immediately closed. Sometimes, however, the condition of the case is such that it can not be removed; if so, it may be necessary to assume an extra risk and convert the premises' into a temporary hospital. As soon as the premises are ready to be evacuated provisions should be made for not only the care and treatment of those sick, but of those who have been in contact with it. These should be under observation in a non-infected place long enough to demonstrate their freedom from infection.

The premises and contents should be disinfected immediately after their evacuation by persons who are thoroughly conversant with the work, by the following methods: (*a*) by gaseous disinfection; (*b*) by mechanical cleansing; (*c*) by chemical disinfectants; (*d*) by steam; (*e*) by burning.

Great care should be exercised in the application of measures for the destruction of vermin, not only in the house itself, but in the immediate vicinity. If rats or mice are found dead in these places a bacteriologic examination should be made of these places to determine whether they are infected, as much depends on the thoroughness in which this feature is carried out.

After completion of the disinfection the house should be thoroughly aired. The soil in and around the premises may be such as not to exclude the possibility of its containing the plague bacilli, and if such be the case, it should, of course, be subjected to such processes as would sterilize the surface at least.

Suspects may be divided into two classes: 1. Those coming in direct contact with the case. 2. Those who have not come in contact with the case, but who have lived in the same house or in close proximity thereto. These may or may not be in the incubative stage. If so, the advisability of administering prophylactic injections of anti-pest serum must be considered, or perhaps the protective inoculations of Haffkine.

Too much importance can not be given to the destruction of vermin, and should not in any case be confined to the premises or those contiguous thereto, but should include a careful search for sick or dead vermin in a considerable zone around the infected premises, together with the destruction of all vermin. The crusade against vermin should be conducted for a sufficient length of time to be doubly sure the danger of their infection is past. This does not mean a few weeks, but should be persistent for months, or even a year or more after the last case of human plague.

The crusade against the rat population in San Francisco during the past winter demonstrates that it is infected. Just to what extent it is not safe to say, as the number examined is entirely too small to base an opinion on, but so far it has shown a greater number of infections than has been observed in Japan; in fact, nearly as large as in Hong Kong. It is, therefore, not safe to say that because no pest rats are found for two or three months the epidemic among rats has disappeared.

There are many rats in San Francisco. Judging from my own observations, together with those of two of my colleagues, the number is beyond computation, especially so along the water front. In the Chinese quarter, fortunately, there are fewer rats. Possibly this may partly explain why there has been so few cases of plague, but even if it were so it does not lessen the danger of the rats becoming infected along the water front. It is safe, therefore, to state that the rat population of San Francisco is stationary, as the few destroyed is a mere bagatelle. What should be done is to institute a systematic and thorough campaign against the rat, which should take in the whole city.

(*To be continued.*)

[The discussion on the papers of Drs. Calvert and Kinyoun will follow the conclusion of Dr. Kinyoun's paper next week.]

# ORTHODONTIC FACIAL ORTHOMORPHIA.

## IMPORTANCE OF DIFFERENTIATION IN CASES OF APPARENT MANDIBULAR PROTRUSION.*

WILLIAM ERNEST WALKER, D.D.S., M.D.
NEW ORLEANS.

Quite a little has been written on the etiology and treatment of cases presenting the appearance of protrusion of the mandible, the "chin-cap" treatment being recommended in young subjects and the removal of sections from each side of the mandible in older patients, and of late much has been written regarding the technic of this latter operation.

In a recent article Dr. E. H. Angle mentions a case in which this operation was successfully done in St. Louis[1] and tells of a failure having been made in New Orleans.[2] I have heard rumors in New Orleans concerning this failure, but have never seen the case.

Much has been written about treatment and a little about etiology, but apparently very little thought has been given to diagnosis, and the object of this brief paper is to emphasize the importance of a correct diagnosis on which to base an intelligent prescription.

It appears to have been taken for granted that the case which has the appearance to the surgeon of being a case of mandibular protrusion must necessarily be such, but I think that by presenting a case illustrating the erroneousness of that assumption, I can make it evident that this is not a fact.

From boyhood this patient was in the hands of a prominent dentist, who more than once was asked if anything could be done to remedy the defect; the invariable reply being "No, except in case the patient be willing to undergo a surgical operation for the removal of a section from each side of the mandible." The patient, at the age of 19, called on me, and my first impression was, as his brother had previously told me, that his lower jaw was very prominent.

Study of the case, however, convinced me that it was very much less a case of mandibular protrusion and very much more a case of arrest of the superior maxillæ.

Without explaining the diagnosis to the patient, he was allowed to return to his dentist, to whom he stated that Dr. Walker had told him that his case was remediable without a surgical operation, and again the dentist expressed as his opinion that nothing could be done for him except the operation previously mentioned, and that if Dr. Walker could otherwise remedy the defect, and if the patient had confidence, a trial might be made.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

[1] Dental Cosmos, April, 1903.

[2] Items of Interest, April, 1903.

I mention these details to emphasize the perfect satisfaction the dentist manifested in his own diagnosis and prescription, notwithstanding its erroneousness, and to thus emphasize the necessity for the word of caution I am uttering, in order that errors in diagnosis may be avoided, for, on the diagnosis the treatment depends, which makes for success or failure.[3]

The patient has been taking a rest for some months, waiting for the alveolar process to redevelop around the teeth in their new position, which has now taken place and we are about to carry the upper teeth a step further. This waiting was considered advisable in order not to carry the teeth too far away from the bone, and because it has been found that if these periods of rest be given, the teeth can be moved great distances, the alveolar process developing around the teeth in their new position just as it did originally, and as it does after fractures, provided that the teeth are held still.

We know that in some pathologic conditions in adult life there is a great difference in the ability of the alveolar process to reproduce itself, but the movements of the teeth in alternating periods of activity and rest so closely resemble physiologic processes that Nature assists us by placing energetic osteoblasts at our service.

In the present case, the space made by the moving forward of the bicuspids and oral teeth, has been closed by the moving forward of the second molars, assisted by the developing of the third molars for which room has thus been made.

The next step will be to apply an apparatus which I am now constructing and which will have the effect of moving the maxillary teeth forward, using the chin and forehead as anchorage. This apparatus will somewhat resemble a baseball mask, but will have to be worn only during the night, the molars affording anchorage to retain during the day what we have gained during the night.

I hope by limiting myself to this one phase of the subject to so focus your attention on the subject of differentiation as to give it sufficient emphasis to attract the attention of the profession to its importance.

## DISCUSSION.

Dr. Eugene S. Talbot, Chicago—It is necessary to understand the etiology in order to treat these cases successfully. It is unfortunate that in this country the majority of the men treating these cases are merely mechanics. Indeed, one of the best men in the country in this line of work says he doesn't care for the etiology, that it is enough for him to be able to treat the conditions. It requires a great deal of time and study to understand the manner in which these conditions are produced, and in order to study this one particular phase we must go back to the time of Aristotle. Aristotle laid down the law of economy of growth, whereby a structure or organ is lost for the benefit of the organism as a whole. All students in evolution have based their work on that law. This law of economy of growth is illustrated in many structures, but those of the face, jaws and teeth are the most important to us. They are being lost for the benefit of the brain. This is one cause for so much decay in the teeth, and arrest of development of the jaw results in irregularities. Man in his evolution has atavistic tendencies so that in those patients who are called neurasthenic and whom I call degenerates, in whom there is an arrest of development, there is also frequently excessive development. This is illustrated by the picture of Charles V. of Spain. History records that Charles V. suffered from indigestion all his life; that he could not eat, and that he kept ten cooks preparing foods for him. Two hundred years after his death a photograph was taken of his skeleton in the coffin, showing this type of face. With the mouth closed the upper teeth closed inside the lower jaw. At that time there were no orthodontologists, and therefore he could not have his teeth regulated. The lower jaw is a movable organ, and because of this it is frequently more fully developed than the upper, which, attached to the bones of the skull, becomes arrested in development and causes this marked deformity. It is possible that the lower jaw in some cases will be excessively developed and there atavism enters. If such cases are taken at the age of thirteen, when the alveolar process is in a constructive stage, there is a possibility of moving these teeth and having the alveolar process remain with them. If the correction is made at the age of 20 to 24, there is more force required, producing inflammation in the alveolar process and preventing its restoration. Therefore, I question how far an operator is justified in correcting irregularities of the teeth. I have known patients to suffer from one to three years from nervous prostration as a result of regulation of teeth by dentists who did not know they were operating on neurasthenics. I do not believe the ordinary dentist should undertake to treat these cases, but it should be done by one who is medically educated and familiar with the nervous system.

Mr. T. E. Constant, Scarborough, England—Very often in the condition where the upper incisor teeth appear to protrude we find that a study of the etiology results in showing a still greater deformity. In many cases diagnosed as superior protrusion the condition is really one of inferior retrusion. If a good bite is obtained after the teeth have been moved, the result ought to be permanent, but this will depend on how the teeth occlude.

Dr. M. H. Fletcher, Cincinnati—I fully agree with Dr. Talbot in his condemnation of the efforts of incompetent men to do this work. I have had three cases sent to me almost in collapse from the ineffectual efforts of men who apparently understand nothing about the work and who had no conception of the stress to the patient under these circumstances. These cases resulted in absolute failure and a wholesome fear on the part of the patient. The varying conditions of health, and the surroundings at home, have great bearing on these cases. I undertake to see that the child has the co-operation and encouragement of the home people. The child must have normal recreation and not too much study.

Dr. H. E. Belden, New Orleans—I agree with Dr. Talbot that the operation carried on in adult life does not always meet with perfect success, especially where a good deal of motion is required. It is not only hard to move the teeth, but often difficult to retain them in their new position. An example is the case of a young lady whose teeth protruded so much that she could not cover them with her lips, and she was much disfigured. Ten years ago I brought the teeth back to their normal position with such success that she is often complimented on her fine teeth—but to hold them in position she still wears a retaining band every night. I agree with Mr. Constant that if the occlusion is good we are more apt to have a successful issue. We see many bridges which can not be worn because of inaccurate occlusion. On the other hand, we see bridges that have lost their attachments, and sometimes natural teeth which the patient can remove from their sockets and replace at will, but they can be retained and made use of on account of their bite.

Dr. Walker—Showing how little the treatment interfered with this man's nervous condition, I may remark that he took during the treatment a two years' course of law in one year and graduated. He has not yet secured occlusion. This we hope to obtain later. The patient tells us that he had not much pain, a little at the first. The bands worn were always stationary.

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[3] Here the patient and others were exhibited, as were also plaster casts, showing the full-front face and profile of the patient before beginning treatment; and also casts of the upper and lower teeth in their relative position at that time; also casts showing the face, front and profile, and the teeth, two months and a half later. Casts were also shown showing the relative positions of the upper and lower jaws at the time of reading the paper, the patient being present for examination and for comparison with the plaster casts.

Dr. M. L. Rhein, New York City—It is unfortunate that a certain class of men in this country having a false sort of dental education with some mechanical dexterity, appear before the public as advertised specialists on orthodontia. I believe in stomatology as a specialty of medicine, but I am opposed to any further subdivision of the work. I believe that the stomatologist should have the entire care of the individual mouth under his charge and if the distinctive and individual portions of the work are to be divided up for the better method of execution, it all ought to remain under his personal supervision. The amount of damage that is done by men improperly qualified is very great. It is my opinion that work can not be commenced too early in these cases of irregularity. The same principle is brought out here as in the work of Lorenz. The softer the bones are when we handle them, the more easily are they molded and the better are the results. I have attempted a number of corrections after the age of twenty, and the results have never come up to my hope. It seems almost impossible to get occlusion, that is, what might be called self-locking. I have at present under treatment two patients aged 8 and 9 years. The parent had doubts whether to have work commenced at the time, and the opinion of a number of men was sought. A large number of the profession have the idea that work should be delayed until all the permanent teeth are erupted. I take exception to the view that the fixed apparatus for spreading the arch is less painful than a removable one. There is more than one way of applying an apparatus. I know of none that will work so painlessly and so easily as that devised by Dr. Ottolengui. I agree that if the work on the bones can not be done without giving pain and causing nervous tension there is a mistake somewhere, and that much harm will be done the child. These patients come to my office sometimes as often as four times a week without any evidence of nervous depression.

Dr. Walker, New Orleans—Dr. Talbot made a reflection on the effect of this work on neurasthenics. The child referred to is a most decided neurasthenic, but since I have been working on her teeth her health has been manifestly improved daily. As the treatment continued, her mental, physical and nervous condition became better. I think this has been partly due to the self-control I have caused her to exert. Heretofore the least disturbance would cause her to cry. Dr. Rhein has stated that the work should be practically painless. He is undoubtedly right. The old way of regulating with movable appliances did cause a great deal of pain and damage to the nervous system. With the fixed appliance, however, the soreness does not ensue. I have used Jackson's appliances since 1894. It is the system to use when the teeth are coming in. If the teeth are in place, a fixed apparatus is better because a greater force is required than can be secured with the Jackson appliance without producing soreness. I think no one system should be adhered to, but that the good from all should be selected for the case to which it is adapted. We should undoubtedly avoid producing pain on account of the injury to the nervous system. In cases in which not much pressure or a great degree of speed is needed I feel that a removable apparatus may be employed. Mr. Constant is correct in saying that many cases of inferior retrusion are diagnosed as superior protrusion and so treated and the patients, therefore, disfigured. In regard to specialization, I think more will be accomplished by a man taking up a specialty after a number of years spent in general practice, and then working in sympathy with the general practitioner.

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**A Cheap Method of Removing Silver Stains from White Fabrics.**—Moisten for two or three minutes with a solution of bromin 5 in water 500. Then rinse in clear water. If a yellowish stain remains, immerse in a solution of sodium hyposulphate 150 in water 500. Rinse in clear water. This formula has been found especially useful for hospitals and laundries.—*Revue Médicale de l'Est.*

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# THE DENTAL PULP—VIEWED WITHOUT THE MICROSCOPE.*

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Before entering on the subject-matter of the present paper may I be allowed to express my appreciation of the honor conferred on me by the invitation this Section of the American Medical Association—an association which enrolls in its list of membership names which are known to and revered by scientists all the world over. The invitation was not accepted without diffidence, for the subject allotted is a narrow one and the investigators many and devoted—indeed, it may safely be affirmed that during the last decade no structure in the human body has been more often or more closely scrutinized than the dental pulp. The majority of the observers have, however, given most attention to those points which require the microscope for their elucidation, and it is partly on that account that I intend to-day to confine myself to the macroscopic aspect of the subject.

The human dental pulp has been arbitrarily defined by an American writer as commencing during the fourth month of fetal existence. Prior to that time it is the "dental papilla." This distinction is convenient, and, although I am ignorant as to whether it has been given general acceptance in this country, for the purposes of this paper I shall adopt it.

At the end of the fourth month of fetal existence dissection reveals the pulps of the milk teeth as translucent gelatinous substances which roughly correspond in shape to the crowns of the teeth which are respectively formed from them. They are generally described as lying in a shallow groove or gutter of bone which is all that exists at that period of what is later known as the alveolar portion of the jaws. The pulps are severally surrounded by a membrane to which they are not anywhere adherent except at their bases. Between the investing membrane and the pulp there is always a fluid which John Hunter likened to the synovial fluid in joints. In the case of the lower animals this fluid is often found in considerable quantity. The membrane is, of course, the tooth-sac. What the fluid is I do not know. By stripping the periosteum from the jaws the tooth sacs and their contents can be removed entire from the gutter of bone in which they lie. At this period (fourth to fifth month) when the dental sacs have been thus removed the groove in which they lie is found to be traversed in the incisor region by slight ridges which form the commencement of the alveolar septa between the incisor teeth. On opening the tooth sacs they are found to be adherent below to the tooth pulps and above to blend indistinguishably with the oral mucous membrane. The apices of the pulps show signs of commencing calcification, the incisors being tipped with little caps of bony material. As calcification proceeds these caps gradually increase in thickness and extend downward over the sides of the pulps, and at the end of nine months of fetal existence the central incisors are about two-thirds calcified, that is to say, the edge of the calcified caps almost reaches the bony floor on which the pulp rests. In the meantime the bony gutter has undergone a marked transformation. Its edges have grown up around the pulps, and the transverse ridges already mentioned have also grown up, forming complete septa between the developing incisor teeth. In the same way the pulps of the developing cuspid and molar teeth have been enclosed, bony septa, of which there was no indication at four months, having sprung up. Thus each developing tooth has become enclosed in a separate crypt, the floor of which is formed by the original gutter of bone, the labial and lingual walls by the upgrowth of its edges and the mesial and distal by the upgrowth of the bony septa. Most of the text-books state that it is about this time (nine fetal months) a roofing in of the crypts takes place by an arching over of the walls. Thus Broomell writes in describing the development of the crypts:

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

> Beginning with a simple groove, or gutter, into which the tooth follicles hang, the follicles exerting a controlling influence over its form. Next comes the appearance of septa between the anterior follicles, which at this period are somewhat irregularly placed in the arch, followed in a few weeks by a well-defined partition between the cuspids and molars, until finally, at birth, each follicle is enclosed in its individual crypt, with the single exception of the second molar, in which the distal septum, or that which is to separate it from the first permanent molar, has not yet made its appearance. As the tooth follicles increase in size by the development of the teeth within, they become more perfectly enclosed in the bony vaults, the sides of the alveolar walls arching over and almost completely enclosing the developing teeth.

Tomes, speaking of the condition of the mandible at the time of birth, quotes: "The alveolar margins are deeply indented with large open crypts." As a matter of fact, both of these descriptions are incorrect, for in the nine months fetus and at birth the crypts are completely closed. It is true that the bone which forms the roof of the crypts is very thin and parchment-like, but it is always there. Broomell is wrong, too, in his description in so far that he makes it appear that the roof is formed very late and by an arching over of the walls. The roof, such as it is, is complete before the bony septa between the various teeth; and what is usually described as a groove or gutter is really a tunnel with a very thin bony roof. There are one or two specimens in the museum of the Odontological Society of Great Britain which illustrate this very clearly. At birth, then, the dental pulps and their partially calcified crowns are completely enclosed in bony crypts. In any dry specimen in which this bony roof is found complete the external surfaces of the calcified crowns within the crypts are invariably found to lack the luster and vitrified appearance one finds on the surface of adult teeth. In a crypt from which the roof has been partially or wholly absorbed the tooth crown is found to be completely calcified; from which we may, I think, infer that completion of the process of amelification is the necessary prelude to absorption of the roof of the crypt. At the time when this absorption occurs the bases of the crowns are in closer contact with the floors of the crypts in which they are contained than at any other time, but there always intervenes, of course, the vascular tissue which marks the junction of the tooth sac and the pulp.

"But," I think I hear you saying, "what has all this to do with the dental pulp?"

Gentlemen, I wish to introduce that interesting structure to you in a new rôle. As the active agent in the formation of dentine we have all known it from our earliest student days. Those of us whose privilege it is to be engaged in the practice of dental surgery recognize it as the mutual friend at whose urgent persuasion the more reluctant of our clientele are induced to seek our society.

It is, however, in the unfamiliar character as the active agent in the translation of the teeth from the crypts in which they originate to the position they finally occupy in the mouth that I wish you to make the acquaintance of the dental pulp to-day. To do this it was first necessary to remind you of its anatomic relations, which have been altogether ignored by the authors of the various theories which from time to time have been advanced to explain that interesting developmental process which we term "eruption of the teeth." Before stating the case for the dental pulp let us pause a moment to consider these theories.

One of the oldest of them is that the eruption of the teeth is due to the elongation of their roots. As long ago as 1835 Thomas Bell wrote: "As ossification proceeds, the roots of the teeth continue to elongate, until first those of the incisores, and subsequently the others, can no longer be contained within the alveoli." This theory is still very popular, but against it the following insuperable objections have been raised: (1) That the distance traveled by the crown of the tooth is sometimes greater than the length of its root. (2) That teeth with comparatively little root sometimes erupt, while others with fully formed roots remain unerupted; and (3) that teeth with roots fully formed may remain unerupted for some length of time and then subsequently erupt.

The following quotation from an article by Dr. Pierce, entitled "The Eruption and Structural Relations of the Deciduous and Permanent Teeth," in the "American System of Dentistry" (1887) clearly shows that there are some writers who even yet regard this theory with favor. He says:

> The absorption of the superimposed tissue from the advancing crown, and the elongation or growth of the root by an increase in the pulpy mass or formative tissue and its calcification are the progressive developmental processes which we term "eruption of the teeth." The force by which the teeth are propelled toward and through the mucous surface into position, is thought by many to be something in addition to that indicated above as the result of normal growth.

In explanation of the eruption of teeth with unformed roots, Dr. Pierce writes in the same article:

> The question at once arises whether such premature presentation of the tooth crown is not wholly due to an absorption or wasting of the superimposed tissue, rather than to the elevation of the crown, which could not well take place without the growth of root, unless it were from the contraction or an expulsive effort of the tooth follicle.

The same writer offers the following ingenious explanation of the eruption of teeth with roots that were fully formed some time previously:

> There is a mechanical force, however, acting on all such teeth, tending to bring them to the surface, the same as on an unantagonized tooth, inducing its elongation or protrusion from the socket. The repeated closing of the jaws must exert to a large extent this mechanical force, just as the bung in a barrel is elevated by a blow being struck on the stave or either side of it.

Tomes' explanation of the same phenomenon is not quite so ingenious, but, as will appear later, is not less unsatisfactory. His account of the eruption of a canine tooth of a human female at the age of 45 is as follows:

> Supposing it, then, to be admitted that the tooth was completely developed before the process of cutting commenced,

the process in itself must be in some respects different from that which occurs when teeth are cut under ordinary circumstances. When the process is normal as respects time and the stage of development of the tooth, the crown appears through the gum long before the root has attained its full length. The crown is in great part brought toward the surface of the gum by the progressive lengthening of the root, and is afterward still further raised by the same process. Now, when the eruption is accomplished subsequent to the development of the root, the movement of the tooth must be effected by some other means than by the progressive lengthening of the root. The completed tooth has to change its place without itself undergoing any change. The bone which stands in its way must be absorbed, and the lower portion of the socket from which the root of the tooth emerges must be contracted by the deposition of the bone. Indeed, in the absence of a better hypothesis it may be assumed that the gradual contraction of the socket is the means used by Nature for bringing teeth to the surface when the process of eruption has been delayed beyond the normal period. In the one case the movement is effected by the development of bone within the alveolus, in the other by the progressive development and consequent lengthening of the tooth.

Another theory that for a time held sway was that of Delabarre. The following account of it from Harris' "Dental Surgery" (1863) is almost touching, and shows the fascination it exercised over lovers of analogy:

> The able physiologist and learned dentist, Delabarre, has advanced a most ingenious theory on this subject. He believes that the passage of a tooth through the gum, or rather its escape from its crypt, is effected in precisely the same manner as is the birth of a child. He regards the sac attached above to the gum and below to the neck of the tooth as the chief agent in the eruption, and believes that it is by its contraction that the latter is raised from the bottom of the alveolus and ultimately forced through the dilated orifice of the capsule and gum. This is the most rational theory that has been advanced; it explains on principles of sound physiology this most wonderful and curious operation of the economy.

This romantic theory lost favor chiefly because its most ardent supporters were unable to demonstrate the slightest resemblance between the dental sac and the female organ to which they imagined it was analogous. It would not have been included here were it not that a passage in one of the above quotations from the writings of Dr. Pierce indicates that the theory has not yet lost its pristine power.

It must have been the improbability of Delabarre's theory that encouraged Coleman to propound another, the acceptance of which would involve the abandonment of existing views as to the growth and development of the jaws. He imagined the teeth to be carried to the surface by a series of "bone currents," in other words, by interstitial growth of bone peculiar to the jaws, and then laid bare by the absorption of the alveolar margins. The reluctance displayed by our leading physiologists to lay aside their views as to the growth of bone, and to accept Coleman's, no doubt largely accounts for the modified enthusiasm with which his theory has been received. The greatest objection to it, perhaps, apart from this is that while it accounts more or less satisfactorily for the eruption of the teeth, it fails to explain how it is that some teeth never do erupt. It is difficult to imagine a lateral or canine tooth stemming the tide of bone currents that its immediate neighbors have found it impossible to resist.

Another theory is that the teeth are raised by a deposit of bone at the bottom of the crypts in which they are contained; and yet another (which is the last to be considered here) is that the teeth are forced into their destined places by contraction of the alveoli. Of these two theories the latter would only account for the eruption of such teeth as have a single conical root, because in case of teeth with two or more roots such contraction would tend to retard rather than assist eruption; while the former rests on an assumption for which, as we shall presently see, there is absolutely no foundation.

I would here draw your attention to Figure 1 which represents a specimen in the museum of the Odontological Society of Great Britain. It shows as clearly as possible that the distance of the bottom of the crypt containing the second molar from the inferior dental canal is very little less than the distance of the apices of the roots of the first molar from the same landmark.

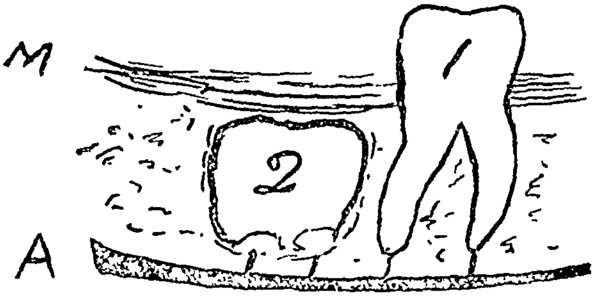

Fig. 1.—First molar. 2. Second molar. A. Inferior dental canal. M. Oral mucous membrane.

It is clear, therefore, that the eruption of the first molar could not have been due to bone deposition on the floor of its crypt. Reference to the same illustration will also convince you that narrowing of the alveoli containing the roots of the first molar would have retarded rather than assisted its eruption.

It appears to me that the chief objection to the root elongation and bone formation theories is a physiologic one. It is extremely difficult to conceive such a process as dentine formation exercising independent mechanical force. But, granting that it may be so, on what structure is that force exercised—in other words, to put the matter clearly and concisely, if somewhat vulgarly, what does the root shove against?

Since the forming root is never in actual contact with its bony surroundings, it must necessarily be against the vascular material in which it is embedded. Now, this tissue appears postmortem of far too jelly-like a consistence to oppose any effective resistance by virtue of its own structure—and yet such resistance there must be or the tissue would be obliterated. Whence, then, are its resisting properties derived? Necessarily from the blood pressure. Therefore, assuming that the physiologic process of dentinification can exercise independent mechanical force and is a factor in the causation of eruption it must, since action and reaction are equal and opposite, divide the honors with the blood pressure—a factor hitherto quite unrecognized. Indeed, it is obvious that any *vis a tergo* must act through

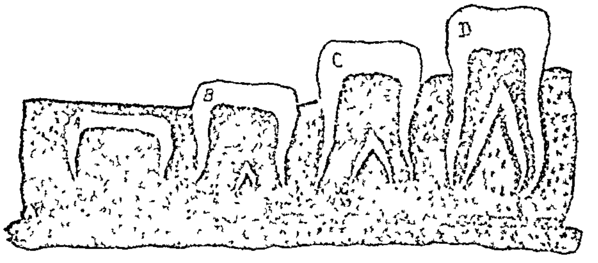

Fig. 2.—Section through a lower molar tooth.

the vascular material surrounding the root; and it follows that such force can not be greater than the blood pressure or it would cut off the blood supply to the root.

But is a force other than the blood pressure a necessary hypothesis when we consider the exceptionally advantageous conditions under which it acts? Let us illustrate these conditions by a diagram (Fig. 2).

A, B, C and D represent a section through a lower molar tooth and its crypt at various stages of development. In A it is obvious that the pulp forms a fleshy column of vascular tissue on which the crown really rests. The pulp itself is injected by the force of the blood pressure entering almost directly from A′, an artery of considerable size. Under the calcifying margins of the crown is the pad of tissue that forms the junction of the sac and pulp, and between the crown and the walls of the crypt is the vascular tooth sac which is injected from the same source as the pulp. Above the crown is the oral mucous membrane and submucous tissue. Now, it is obvious that the blood pressure exerted in the pulp tissue acts on the crown at a considerable mechanical advantage in comparison with the pressure in the tissues overlying the crown. Indeed, it is only necessary to glance at the diagram to understand how it is that some teeth travel so quickly to their destined position when once their crowns have emerged from the gum. In fact, with regard to this point, it is a marvel that dentists who have many opportunities of observing the rapidity with which teeth sometimes move during eruption should ever have been induced to regard the comparatively slow process of dentinification as the active agent in the matter. As eruption proceeds so does root formation, the former making space for the latter. Indeed, if I may be allowed to illustrate the process in a homely fashion and in the way it presents itself to me, the mechanism is somewhat similar to that employed by a sweep in cleaning a chimney. I do not know whether you, in this country, have improved on our method of "chimney-sweeping," so perhaps I had better explain that our sweep employs a circular brush and a bundle of rods with screw joints. He places the brush in the chimney and screws in the first rod, then he pushes the brush up the chimney the length of the rod and then screws in another rod, and so on. Now, the sweep represents the pulp, the force he uses to push the brush up the chimney represents the blood pressure, and the screwing in of a fresh rod represents the various stages of root formation.

Referring again to the diagram, we notice that each stage in the formation of the root diminishes the extrusive tendency of the pulp until when the root is complete *it becomes practically nil.* Moreover, after the tooth crown has emerged from the gum the tooth sac, which has now become the peridental membrane, forms a ligament for the tooth, being attached both to the roots and to the socket. The vascularity of this membrane still endows it, however, with an extrusive tendency which is in itself sufficient to account for the gradual elongation of unopposed teeth, and is probably the chief means by which the proper occlusion of opposing teeth is maintained. If we have any doubt in the case of healthy teeth as to whether this elongation is due to the normal blood pressure exerted in the peridental membrane they should surely be dispelled by the clinical phenomena that present themselves when the blood pressure is pathologically augmented—in other words, when inflammation of the peridental membrane supervenes. When we consider the mechanical conditions illustrated by the foregoing diagram in conjunction with the pulsating and expansive force exercised by the blood pressure does not the necessity for another eruptive force disappear and Dr. Pierce's bung-and-barrel explanation of the elongation of unopposed teeth become somewhat superfluous.

If we assume that the blood pressure, acting in the manner above described, is the sole active mechanical factor in determining the eruption of the teeth, will it account for the phenomena other theories fail to explain? That the crown of the tooth sometimes travels *a distance greater than the length of its root,* that teeth sometimes erupt subsequently to the formation of their roots, and that teeth with comparatively little root occasionally erupt, are facts all in favor of such hypothesis and can be explained by it.

The fact that teeth with fully formed roots remain unerupted can be more easily explained by this theory than by any other, because it alone can account for the space obtained for the fully developed roots which often occupy abnormal positions. In other words, the blood pressure, acting as it does equally in all directions, makes room for the developing root in the direction of least resistance. Normally this is in the direction of the advancing crown, but occasionally it is elsewhere. The continuous eruption of teeth with persistent pulps, which neither Delabarre's nor Coleman's theory could possibly explain, is a very simple problem if we admit the blood pressure as the active mechanical factor.

I am, therefore, of the opinion that on anatomic and physiologic grounds alone are we justified in assuming that *the blood pressure exerted in the vascular tissue which lies between a developing tooth and its bony surroundings is the active mechanical factor in the process known as the eruption of the teeth.*

So far the purely mechanical aspect of the question has been alone considered; but if your patience will endure the strain there are one or two points of physiologic interest that have so direct a bearing on the subject that it would be as well to include them here.

Some years ago I recorded the observation that in young people, when a back tooth had lost its antagonists, the characteristic elongation which takes place under those circumstances varied in cases in which the pulps of the unopposing teeth were dead from those in which they were living. In the former instance, although the elongation of the teeth took place, it was unaccompanied by any downgrowth (or, in the case of a lower tooth, upgrowth) of the alveolar ridge; whereas, in the latter case, there was a corresponding deepening of the alveolar ridge. In other words, in the case of dead teeth there was simply extrusion from the alveolus, but in the case of living there was growth of the alveolar ridge. It appears obvious, therefore, that the growth of the alveolar process is dependent on the integrity of the dental pulp; or, in other words, that the pulps of the teeth, as a whole, exercise a trophic influence with regard to the alveolar process. I am of the opinion that extirpation of the pulp of a tooth causes a marked and permanent alteration in the vascular condition of the peridental membrane—in fact, a disturbance of vasomotor equilibrium in the direction of a paralysis of the vasoconstrictor mechanism.

The foregoing remarks apply to both the permanent and temporary dentitions; but the pulps of the temporary teeth exercise another kind of trophic influence which seems to have escaped the notice of dental writers, namely, their influence on the process of resorption of the roots of the temporary teeth. In the case of temporary teeth, in which the pulps are destroyed at the time when resorption of the roots should commence, resorption, strictly so-called, does not occur at all. In such cases a certain amount of absorption of the root, as a rule, takes place, just as it often does in the case of dead permanent teeth, the macroscopic appearance of the roots in both cases being strikingly similar. This absorption is a pathologic process and differs markedly from the physiologic process of resorption. It is a much slower process, and that is one reason why we so frequently find the apices of the roots of dead temporary teeth protruding from the labial or buccal surfaces of the alveolar ridges, causing that ulceration of the mucous membrane of the cheeks or lips with which we are so familiar in the case of children whose milk teeth have been neglected.

The explanation of this common phenomenon is simple. The death of the pulp of the temporary tooth has left its root incapable of resorption and its socket prone to degeneration. Absorption is too slow a process to make room for the crown of the permanent successor which soon impinges on the dead root, deflects it and thrusts its apex through the degenerated alveolar process and the superjacent soft tissues. In those cases in which death of the temporary tooth has taken place some time after the process of resorption has commenced and the root is, in consequence, shortened, the pressure of the advancing permanent tooth simply tilts the root until it takes a nearly horizontal position; the crown, if any remain, being correspondingly deflected. Other phenomena which admit of a similar explanation are familiar to us all, and need not be enumerated.

From the time when the dental pulp is "nothing more than a part of the mesoblastic myxomatous tissue of the jaw, which has become more rich in vessels and cells than the other neighboring part" up to the time when commencing senile degeneration presages the termination of its physiologic activity, it is one of the busiest exponents of local government observable in the whole domain of human physiology. While it is hard at work constructing the tooth it regulates the blood pressure that causes that organ to travel to its appointed place in the mouth, at the same time building up the bony walls that enable that pressure to act at a mechanical advantage. Then, in the case of the temporary teeth, it superintends the demolition of the very structure it has been at such pains to create; and finally, in the case of the permanent teeth, it controls the nutrition of those parts on the integrity of which the tooth is dependent for the proper exercise of its function. Thus we are able to understand the otherwise inexplicable phenomenon which Tomes aptly describes in the following words: "It is impossible to insist too strongly on the fact that the sockets grow up with, and are molded around, the teeth as the latter elongate. Teeth do not come down and take possession of sockets more or less ready and pre-existent, but the socket is subservient to the position of the tooth; wherever the tooth may chance to get to, there its socket will be built up round it. On the proper appreciation of this fact depends our whole understanding of the mechanism of teething; the position of the teeth determines that of the sockets, and the form of pre-existent alveolar bone has little or nothing to do with the disposition of the teeth."

[The discussion on the symposium of papers by Drs. Constant, Morgenstein, Causch and Römer will follow the paper of Dr. Römer in a later issue.]

# THE IMMEDIATE RELIEF OF HYSTERICAL MANIFESTATIONS OF THE LARYNX.*

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ST. LOUIS.

Hysterical manifestations in the larynx are common enough to fall frequently into the hands of every laryngologist. The treatment likewise is successful enough to warrant an almost positive promise of relief in at least the majority of cases. There is, however, much to be learned, both as to the development of newer and more satisfactory methods and as to the reasons for the successes in individual cases.

It is in view of these circumstances that I present my method which, though original with me so far as I know, may yet have been used by others. I do not assert for a moment that the method results in anything but a relief from the laryngeal symptoms or that monosymptomatic hysteria exists, and that, therefore, the symptomatic relief is tantamount to a cure. Nor is it certain that the relief is of any longer duration than that from other plans. But it is clear that the method is simple, absolutely painless, easy of application and withal successful.

All plans of treatment have as their basis the deception of the patient, or, perhaps I should say, direction of the patient's mind away from false conceptions toward possibilities that are within his reach if only he will utilize them. In other words, suggestion in one form or another is used. This may be extended over a period of time, or it may be so decided that it is effective at the first sitting. To the former class belong such plans of treatment as manipulations of various kinds and operations distant from the seat of the symptoms. Often, too, operative interference in the neighborhood of the larynx or applications to the larynx or pharynx will be followed by relief after a longer or shorter time. Consecutive treatment of any kind may have a similar effect in ridding the patient eventually of his symptoms. Immediate suggestion, on the other hand, is mainly used through the medium of a strong electric current which is sent through the larynx, and generally becomes effective at once.

The method which I desire to detail is of this type, but it requires no instrument except the index finger and a ready tongue on the part of the operator.

At the first sitting, having recognized the case as one of hysteria, I state to anyone who happens to accompany the patient that the case is quite clear and easily relievable, but, turning to the patient, I say: "You must agree to let me do what is necessary. I can not consent to undertake the treatment unless you are willing to submit yourself to the treatment." The patients invariably say that they are willing to stand anything provided there is any likelihood of a cure. Of course, I give an absolute promise as to relief and send the patient home to think and to worry about it, or, if it is desirable, proceed at once to work. In any event, I generally deliver a short and more or less sentimental talk to aphonics on the word "home," which I state is the first word that they will utter, the most beautiful and easiest to pronounce in the English language. Having secured the requisite confidence and interest, I place the patient on a chair and I insert the index finger of the right hand into the pharynx and press the epiglottis over the glottis until the patient becomes somewhat uncomfortable, when I withdraw my finger and say in a loud commanding voice, "Now, say 'home, home, home!'" The patient responds and the command is continued as often as necessary until the patient repeats not only "home," but any word suggested, and leaves the office talking as well as anyone. At the next sitting I look into the larynx and state that everything is in perfect shape and the treatment concluded.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. George L. Richards, O. Joachim and G. V. Woollen.

Of course, the character of conversation must be modified as the requirements of the individual demand, but in the main the procedure above indicated may be adopted.

In my earlier cases I stated that there was a dislocation or defect in the larynx which my treatment would relieve, but I now make no statement of what I affect to discover in the larynx in consequence of the advice given to me by Dr. Schwab. He called my attention to the fact that hysterics are prone to adopt suggestions to their own detriment, although the suggestion be made for their relief. In two of the three relapses the error of this plan was shown. In the first case one of my patients (which one, I do not know) called on my assistant during my absence in Europe and said that she had another dislocation in her throat and that I had cured her before by sticking my finger down her throat and invited him to do the same. He did so, and she became phonic again.

In the other case, that of hysterical mutism, the recurrence, I am sure, was made possible by my error in detailing the supposed cause.

The cases to which the method has been applied cover the whole range of the commoner hysterical manifestations of the larynx, such as aphonia, mutism and cry. The result was in every instance successful except in one not reported here for the reason that I did not have a fair opportunity to do the necessary work. The case was one which I saw for a few moments only in the office of Dr. Freudenthal of New York during a visit to that city. The case was a very obstinate one, having been the rounds of laryngologists without benefit. The Doctor had been unable to relieve her, and asked me to try my plan. Of course, I could not and did not secure the patient's confidence and, therefore, nothing resulted.

The cases which I report will fairly demonstrate the variety of conditions that may be relieved and likewise the method of applying the suggestion. Of course, in every instance, I explained the nature of the condition and the character and true facts of the treatment to some sensible member of the family. To do otherwise would have placed me in the ranks of the charlatans. The responsible member of the family is entitled to know that there is no real operation, and that the method used is purely one of suggestion. It is best, generally, to postpone giving this information until just before resorting to the suggestion. Of course, it is necessary to enjoin the informed not to let the patient know the true facts and not to discuss the condition with the patient or friends.

General treatment is indicated in all these cases, especially such as may influence the hysteria, which is the basis of the condition that causes the patient to consult a laryngologist.

### SUMMARY OF CASES.

CASE 1.—*Hysterical Aphonia, Paralysis of Adduction.*—My first case was that of a girl, aged 17, who came to my clinic suffering from the classical symptoms of hysterical aphonia. After showing her to my students and demonstrating the hysterical paralysis of adduction, I endeavored to pursue the usual plan of sending a current of electricity through the larynx. My battery was out of order, so being at a loss for an agent with which to influence the patient, it occurred to me that I might accomplish the same result by suggesting that something was dislocated in the larynx which I could easily replace and thereby accomplish a cure. Somewhat to my surprise the patient recovered her voice as soon as I withdrew my finger and announced that everything was in proper order again.

CASE 2.—*Hysterical Aphonia, Adductor Paralysis.*—In January, 1900, I was asked by Dr. Jacob Geiger of St. Joseph to see a young girl, E. B., aged 13, who had been suffering from aphonia for six months. This had come on suddenly and had not yielded to treatment, which had been, in the main, nerve and blood tonics and sprays. There was no previous history except an attack of acute rheumatism some years before. The girl was of a very lively, nervous disposition, very capricious and somewhat anemic. Having learned of the case beforehand, and readily recognizing the condition, I had sent word to the mother that her daughter would speak within two minutes after I saw her. As a consequence of this the patient was prepared for something extraordinary. I made a hurried examination and confirmed the diagnosis and stated to the patient that if she were willing to submit herself to the treatment, however severe it might be, I would have her saying "home" in less than a minute. She consented. I adopted the usual plan, and withdrawing my finger suddenly, commanded her to say "home, home, home." She did so, and acting on my direction she called up her grandfather by long-distance telephone and within three minutes after I saw her she was talking to him in proper voice for the first time in six months. There has been no recurrence, as I learned from Dr. Geiger, under whose charge the patient now is.

CASE 3.—*Hysterical Aphonia, Adductor Paralysis, Anesthesia of the Pharynx, Hysterical Cough.*—The father of A. B. had written to me, in May, 1900, from Louisiana describing his daughter's condition. He stated that she had lost her voice suddenly eight weeks before, and since that time could whisper, but not phonate. He asked me to telegraph if I could relieve her. Knowing well what the effect would be on the young lady, I telegraphed to him that I could cure his daughter. As I surmised, when she arrived she was perfectly satisfied that I would cure her, and I had little difficulty in making her have full confidence in what I promised. As usual, I advised her that the operation which I should perform would necessarily be a severe one. She stated she was willing to stand anything. Unfortunately, a well-disposed patient, who became acquainted with the one whose case I am reporting, assured her in a sympathetic way that the operation would not be painful and that she need not have any fear. To this I lay the necessity of making three efforts before I was successful. I found the patient, when she came into my operating room, very much calmer and not disposed to fear the operation. After I withdrew my finger the first time, her voice was slightly more phonic. Looking into her throat I stated that the cords were not in proper position. I made another effort, this time with more success, for now she spoke in a rather hoarse but fairly phonic way. After examining the larynx I stated that it was almost in the exact position which I wished it. The third effort was successful. Since that time there has been no return whatever. Curiously, after the disappearance of the aphonia she developed a hysterical cough, which, however, lasted only a few weeks. Dr. Bauduy, who examined the case, confirmed the diagnosis of hysteria. The mother was intensely hysterical, and immediately after the young lady's voice returned I isolated her from her mother for three days, fearing the effect of her sympathy and the maternal hysteria. In this case during the attack the cords could not be approximated, during the efforts at phonation the space between the arytenoids being fully 7 millimeters. Anesthesia of the pharynx was marked.

Case 4.—*Hysterical Aphonia.*—F. M., aged 22, first lost her voice suddenly in September, 1900. One week later it returned suddenly. Two weeks after this the voice again disappeared suddenly and reappeared within one week. The last attack came on a month before she consulted me, which was on Dec. 18, 1900. This attack differed somewhat from the other in that she could not even whisper at first, but a week before she began to whisper again. There was no pain, no discomfort and no globus hystericus. Her general health was good, but she was somewhat anemic. Previous health had been good. I made an examination, stated that there was a condition in her larynx that required immediate attention, lectured to her on the easiest word in the English language, namely, "home," assured her that this would be the first word she would speak, and having thoroughly frightened her, secured her consent to go through the necessary performance on the following day. She returned very much worried, very much interested, and determined to undergo anything to recover her voice. The usual plan was adopted and her voice returned immediately, and there has been no recurrence of the aphonia since.

Case 5.—*Hysterical Mutism, Adductor Paralysis, Hemianesthesia, Anesthesia of the Pharynx.*—I was consulted in November, 1900, by Mrs. M. G., a widow, aged 41, who presented the following history: In February, 1899, an operation was performed on the right axilla. After this she remained in bed for four months. July 1 she found it impossible to phonate, her voice becoming suddenly of a whispering type. Aug. 2, 1899, her voice was lost altogether, it being impossible for her even to whisper. Since that time she has been unable to phonate or to whisper. She stated that she had never been able to speak in a loud tone since the operation, and evidently ascribes her trouble to the operation. There was no definable cause for either the whispering or the attack of mutism. She states she had a choking sensation, after which her voice disappeared. Her mother died of consumption when the patient was 5 years old. Her father died in the Army from a wound. There was no nasal discharge and there were no symptoms of throat trouble, except that she complained that her throat felt sore on the right side (the side on which the operation was performed). She had frequent attacks of headache of the migraine type, both sides being affected. The attacks came on without any special regularity. There was no cough, no expectoration, no clearing of the throat. Her appetite was fair; her bowels regular; no difficulty of respiration; occasional choking sensation at night; general condition fair. Both Dr. Chaddock and Dr. Schwab, who examined this patient at different periods, found unmistakable evidence of hysteria, and numerous stigmata, such as hemianesthesia, anesthesia of the pharynx, etc. The patient, who had been suffering from mutism for 16 months, was brought before my class, giving me an occasion to make a distinct impression on her as to the seriousness of her condition, the possible severity of the operation and the beautiful influence of the word "home," the first word which she learned she was to speak in 16 months. Of all the patients whom I have treated in this way she was most affected. She responded at once to treatment and her voice returned. On Sept. 25, 1902, she again consulted me on account of the loss of voice of two days' duration. I found a very acute inflammation of the pharynx, tonsils, lingual tonsil and larynx. The usual remedies were applied, and though the acute inflammation disappeared the aphonia continued. It was evident that she remembered her previous attack, and was probably influenced by a fear that there had been a second dislocation in the larynx. Not desiring to complicate the matter, as it was evident that suggestion in this case had as much power for evil as for good, I concluded to use another method in this case. Consequently, I made an application to the lingual tonsil of a strong solution of nitrate of silver, having stated to her without undue explanation that she would be enabled to talk immediately thereafter. Success followed this application.

Case 6.—*Hysterical Aphonia, Hoarseness.*—Miss M., aged 24, consulted me in December, 1900, on account of her hoarseness, which had lasted for six months. Two years before I had endeavored to relieve her of hysterical aphonia by galvanization with but indifferent success. She could phonate at times, but her voice was always hoarse, while she had occasional relapses into complete aphonia. Her general health was fair, though she was nervous and disposed to be melancholic. One sister suffered from melancholia for two years, but finally recovered. Examination showed that the vocal cords did not approximate when phonation was attempted. The usual plan was followed, and although such a case could not offer the same promise as one of complete aphonia, the patient entirely recovered, and has continued free from trouble except occasional attacks of hoarseness, which, however, last but a short time.

Case 7.—*Hysterical Cry.*—I. S., aged 13, consulted me in April, 1901, at the instance of Dr. B. L. Dorsey, with the following history: She had been more or less sick all winter with what was designated nervous prostration. Other than this there had been no trouble except painful spots along the right leg. About three months previous to this time the peculiar shrill cry first appeared and within the limits of its characteristics it had continued since that time. The cry did not appear until 4 o'clock in the afternoon (after school) and it continued at intervals of from one and a half to two minutes, until she went to sleep. From that time until the succeeding day at 4 o'clock she was free from its presence. The cry, which lasted about two seconds, resembled the sound of a prolonged *ai*, and the intensity was about that of the voice of a child when calling another at some distance away. The quality, duration, pitch and intensity, so far as I could observe or learn, were about the same under all conditions, whether the child was on the street or in the house. The girl was very much mortified about her condition, and strove to conceal it, manifesting great disinclination to leave home. Examination of the nose, pharynx and larynx showed nothing abnormal. Dr. Chaddock found stigmata of hysteria, which naturally confirmed the diagnosis. Although this case hardly afforded the scope for suggestion after the method detailed that the aphonic cases offered, it was finally decided to adopt the same plan. Accordingly, after the usual preliminaries and after being assured by the patient that she was willing to stand anything which would afford relief, I inserted my finger into the larynx until she became very uncomfortable, and withdrawing it, suddenly, I said, "Now you are all right!" I then examined her larynx and stated to the Doctor and mother that everything was now perfectly normal. Since that time she has never had a single attack. I saw her last in March, 1903.

Case 8.—*Hysterical Aphonia, Anesthesia of Palate and Pharynx.*—Miss E. P., aged 27, referred to me by Dr. F. J. V. Krebs, Dec. 1, 1902, lost her voice six months ago. Two months later without apparent reason her voice returned. Two months later it again disappeared, and since that time, although much had been done to relieve her, the aphonia persisted. The patient's health had been fair, but she was nervous and easily excited. On attempted phonation the cords would move spasmodically to and fro with a short range about 5 millimeters from the median line and would finally come to rest in the position of complete abduction. Palate and pharynx were anesthetic. After the usual preliminaries, I inserted my finger into the larynx and, withdrawing it, I ordered her to say "home, home, home!" She responded in a fairly loud voice. As I continued to direct her to say this and other words, I noticed that there was still a tendency to aphonia in that she would quite often whisper the word instead of saying it aloud. I then asked her to sing "home, sweet home," and with the assistance of my own somewhat discordant tones she sang the song and the aphonia left her. Three months later there was a recurrence, which readily responded to my suggestion which comprehended an inspection of the larynx, an expression which indicated that I understood the condition and the introduction of the finger without comment. Since this she has had no further attack.

## DISCUSSION.

**Dr. Frank W. Hilscher**, Spokane, Wash.—The method of treatment is on the principle which Dr. Mulhall of St. Louis described ten years or more ago. I remember seeing in his clinic a case of hysterical aphonia, treated by inserting a wet sponge electrode into the pharynx which frightened the patient so that he made an exclamation. The patient was then commanded to speak on penalty of a repetition of the operation. This same patient would lose his voice occasionally, relapsing into the former condition, but the physician had no trouble renewing the suggestion, going so far that he actually produced the suggestion by telephone. That was done in at least one case of which I know, and he told me that he had accomplished a similar result in a number of other cases.

**Dr. J. F. Barnhill**, Indianapolis, Ind.—I consider this paper as one of distinctive value. Cases of hysterical aphonia exist, and when we are consulted concerning them, knowledge of a certain method such as Dr. Loeb suggests becomes as valuable to us, trivial though the method may seem, as is the technic of the most complicated surgical procedure. I have treated some cases of this kind, one lately, in which there were lingual tonsils. I assured the patient that the removal of these would result in the cure of her ailment, and verified the prediction to the satisfaction of all concerned. I desire to ask Dr. Loeb two questions: 1. Has it been his observation in the class of cases he has described, that the pharynx and larynx are in an anesthetic condition? 2. He stated that the epiglottis is pressed down with the finger until there is considerable discomfort. Is it the intention to cause the patient pain by this pressure, or are we to understand by the term discomfort that some degree of asphyxia is produced?

**Dr. H. Dupuy**, New Orleans—The success Dr. Loeb obtained from positive hypnotic suggestion promises excellent results in these cases. A girl of 19, a religious enthusiast, came to my office with an acute case of hysterical aphonia. I examined the parts thoroughly, and by way of suggestion I told her that there was something up behind the nose that caused the disturbance. I introduced my finger and made the manipulations we usually do for the recognition of adenoids. Her voice was immediately restored. Several months afterward the aphonia recurred and she was unwilling to again undergo what she considered a heroic maneuver. I would like to ask Dr. Loeb whether he has had any recurrences, and what is the longest time in any case in which there has been no return of the aphonia.

**Dr. C. M. Cobb**, Boston—I was told in the Hospital for Epileptics that there is often some serious constitutional idiosyncrasy or dyscrasia back of hysteria and that these patients often become insane or have tuberculosis later. The same suggestion was made by Dr. Edes of Boston. He said that he used to consider them almost immortal, but that they are not; the death rate among them is much higher than among normal individuals. I am very glad Dr. Loeb has given us the details of his treatment by suggestion. Probably every one who has practiced medicine any length of time has invented a method of suggestion of his own. One physician's method was to talk with the nurse outside of the door within the hearing of the patient, in the case of a married woman, for example, as to whom the husband was likely to marry if the patient did not recover. The nurse would suggest someone and the physician would say that it met his approval, since the woman was good and strong. The result would be that the patient recovered her voice speedily.

**Dr. H. W. Loeb**, St. Louis—Personally I knew nothing about hypnotism or suggestion previous to this work, and I know now practically nothing about it. I have been forced to report this method, which differs from the other methods in its systematic performance. These patients, however, are prone to accept suggestion, not only for their relief, but also to their detriment. In one case, for instance, the patient came to have a new dislocation restored. In Dr. Barnhill's case an operation was found necessary; it is possible that that woman will have some operation performed on every part of her anatomy before she is through. Those are the cases the neurologists complain that we treat with the ablation or supposed ablation of some organ, and the disease returns again and again. Such conditions as anesthesia and hemianesthesia may be relieved in the same way as aphonia. If we use heterogeneous suggestion we may often make mistakes. In the last few cases I have said nothing about the condition found; I simply look at the larynx and say that I will be able to cure the trouble. One case is of at least two years' standing. The pharynx is not always anesthetic, but it is often so in hysterical cases. As to the discomfort resulting from the treatment there is, of course, no pain, but only an impediment to respiration. I occlude the larynx until there is a distinct impression from the suffocation, then withdraw the finger and command them to speak and they simply can not help talking. I hope the members will use this method with caution, not to use a suggestion that may be duplicated and do the patient harm.

## THE TREND OF MODERN PSYCHIATRY AND ITS RELATION TO GENERAL MEDICINE.[*]

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Amid the kaleidoscopic changes incident to modern medical progress, none are more conspicuous and striking than those which pertain to the study of psychiatry. To the average practitioner medical psychology was until within a very recent period, a sealed book, and even to-day its study is greatly neglected by many of our medical schools and colleges.

This indifference is well understood, however, when we remember the hypothetical character of former available knowledge concerning morbid psychical phenomena, as well as the difficulties which beset its practical clinical application in general medical practice. Moreover the numerous exigencies that belong to the care, management and treatment of the insane soon led the general practitioner to lose interest in its study, and all such cases were willingly referred by him to those members of our profession whose tastes or opportunities led them to select this form of practice, hence, the alienist became through sheer force of circumstances the first in chronologic order of medical specialists.

As insanity at times requires rigid isolation, hospitals devoted to the exclusive use of the insane were imperatively demanded, but cheerfully supplied from the generous funds of the state treasury. Owing to the extreme magnitude of such hospitals their control became a very tempting prize for rival political parties to possess, hence their management was soon added to the political spoils system.

The universal adoption, however, of this diabolical political practice imposed a great injustice on the unfortunates who were compelled to submit to its evil consequences, beside proving a serious hindrance to the progress of scientific psychiatry. Moreover the exclusive character of the work soon led the medical officers to separate themselves from the rest of the medical profession, which had the baneful effect of not only dwarfing their own medical growth, but also retarded the study and development of psychologic medicine. Not all of the medical officers were tainted with this special vice, but the general correctness of the assertion can not successfully be denied.

Without any desire to be pessimistic, and duly recognizing that in the development of the modern insane or psychopathic hospital with all its scientific paraphernalia, our forefathers necessarily were compelled to pass through the period of what may be termed the mechanical stage of construction, at which time, perhaps, the size of the hospital, together with its more purely mechanical devices, such as the washing machines, steam cooking utensils and the electric lighting apparatus, was even of greater importance than its purely medical equipment or the more strictly scientific methods belonging to the study of psychiatry, yet we believe the time has now come when these purely mechanical matters can safely be left, in a large part, to others, reserving at the same time the right of the medical superintendent to be the chief ranking officer, to whom all such matters can be referred for final judgment, while his first and chief duty, as well as those of his assistants, should be the scientific study of insanity, as well as the best means for its appropriate care, prevention and treatment.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

That this ideal is far from being realized in several of our state institutions, at the present time, is clear to all thoughtful physicians, and that many of them are still practically owned and controlled by the politicians is common knowledge. In this dilemma it was evident that something needed to be done in order to extricate the insane hospitals from their unfortunate predicament by rescuing them from the hands of the politicians, and at the same time infuse new medical life and spirit into the officers comprising the medical staff, by reminding them of their great weakness in thus isolating themselves from the rest of the profession, as well as emphasizing their unusual opportunity for scientific clinical and pathologic psychiatric research which they were wholly neglecting.

Fortunately for us the man and the occasion presented themselves about 8 years ago, and, while this great work of deliverance is still in its early infancy, yet the results so far attained are flattering, while to their honor let it be said the brilliant achievements already accomplished by the rescued medical officers have largely redeemed the former careless indifference into which they had unwittingly fallen. Prior to the able address[1] referred to, which was delivered before the American Psychological Association, May 16, 1894, by Dr. Weir Mitchell of Philadelphia, in which he severely criticised prevailing methods of the officers, as well as the care, management and treatment of the insane, little was actually being done of a truly scientific nature (except in a few notable instances), by those who had charge of the various state insane hospitals, to enlighten the general medical profession concerning the true nature and character of insanity. This bold and fearless address, however, has had the desired effect of arousing the alienist from his lethargic slumber to one of extreme zeal and scientific activity, which has resulted in a continual series of practical demonstrations and discoveries that greatly enlarge our former available useful clinical knowledge concerning the insane, as well as the intricate problems associated with psychopathology and clinical psychiatry.

While it is true that the alienist was first of medical specialists, yet he soon become too exclusive in his methods to be practical, and his willing isolation stunted the growth and development of scientific psychiatry to such an extent that there was complete stagnation in this department of medicine for very many years. Dr. Mitchell's address, however, marks the beginning of a new era in the scientific study of psychiatry in America by defining the line of demarcation between the inactive, unpractical, unscientific methods of the past and those of the more modern, enthusiastic, energetic, scientific, practical ones of the present period. It also demonstrates conclusively the practical trend of modern psychiatry in thus repudiating political intrigue as the dominating controlling power which dictates the medical policy and appointments of our state hospitals, beside refusing politics the right to govern the standard of medical educational worth and fitness for such positions. To live out of range of critical shot and not be preceded and followed through the various wards of the insane hospitals by clever rivals in other departments of medicine, or to refuse advice and even admission to able clinicians working in other medical branches, was not only an ancient vice, but a method of doubtful practical utility which needed condemnation, as it certainly hindered the best growth and development of scientific psychiatry. Under the old régime of keeping aloof from the rest of the medical profession was it any wonder that a few years ago when the alienist was asked for his contributions to medical science that we were handed the latest biennial report of the hospital, which contained but a few fragmentary remarks concerning insanity, and sandwiched among incomprehensible tables of statistics and farm balance sheets, beside many pages devoted to the crying need of a new washing machine, additional buildings or more medical assistants?

That such was the case is a well-known fact (and unfortunately exists even to-day in a few of the more nonprogressive state hospitals), but the trend of modern psychiatry contemplates the revolution of such worthless matters by substituting in their stead the inauguration of a practical scheme whereby those called on to fill such positions of trust and honor can demonstrate their fitness by their individual scientific attainments and more willing devotion to the scientific study of psychiatry, thereby placing a premium on their meritorious service. That insanity and its allied disorders can not be separated or divorced from general medicine, but that the intricate problems associated with each are more or less dove-tailed, is self-evident, hence, it is impossible to ignore the close relation that exists between mind and body on the one hand, and general and special medicine on the other. It was not, however, until this intimate relation or bond of union between the two was better understood that the science of psychiatry made any practical tangible advance.

With every step in the forward, progressive march, however, connected with the study of neuropathology, it was evident that those diseases termed mental were dependent on some lesion of the nervous system, hence nervous and mental diseases are closely allied, indeed they are to be regarded as being almost synonymous, so that the study of one depends on the study of the other, and as all parts of the human organism are subject to nervous control or innervation it follows as a logical sequence that the entire human organism is concerned at times in their clinical manifestations. In order, therefore, to be a competent alienist one must of necessity be not only a skilled neurologist, but also an able general medical practitioner. That American alienists have been slow to learn this great lesson is certain, but it is a very hopeful sign of the times and one that also beautifully illustrates the trend of modern psychiatry, when we realize the truth that the American Psychological Association has ultimately decided to affiliate with the Congress of American Physicians and Surgeons by holding their meeting together next week at Washington, D. C. Such an amalgamation as this can not fail to accomplish much good to all concerned, as well as prove a valuable scientific impetus to the future study of psychiatry. In thus extricating the insane hospitals from their perilous political position, as well as win back to the common professional ranks this large and useful body of scientific alienists, Dr. Mitchell unconsciously exercised a masterly stroke of medical polity, as well as displayed shrewd strategetic diplomacy which argues well for the future study of psychiatry, beside forcibly illustrating the modern tendency of scientific exactness in practical psychologic medicine. That we are simply standing at the threshold of a practical working knowledge of insanity heretofore unattained by any previous period, whereby the general medical practitioner can recognize clinically from the varied symptom complex grouping, not only the evidence of diagnosis, but also the more important factor of prognosis, is very certain. This is clearly evident when we contemplate the progress recently made in psychopathology whereby our former conceptions of the acute psychoses have been greatly modified and revised, thus changing completely all former classifications of insanity, and rendering them more or less antiquated and obsolete.

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[1] Jour. of Nervous and Mental Diseases, July, 1894.

In this advanced step of progressive medical development we see again the trend of modern psychiatry and recognize at once its practical clinical utility in general medical practice.

For centuries it has been the prevailing custom to classify insanity from either its etiologic, symptomologic, pathologic or psychologic standpoint, hence, those of us who learned our psychiatry within the past 15 or 25 years know full well how these earlier views were handed down and taught us, and how they still cling to our memory, thereby molding our forms of thought in classifying the more common types of insanity. It is only within the past ten years, however, that we in America have fully realized their faulty construction and that instead of considering such conditions as melancholia, mania and dementia, as distinct morbid clinical entities as was formerly taught and believed, we are now fully assured by the more advanced and correct views of Kraepelin that these are simply different stages of one and the same underlying pathologic process.

Hence, all former generalized schemes of classification which does not conform to this more correct teaching as demonstrated by modern clinical research and pathologic findings are not only proven to be wholly inaccurate, but utterly futile and misleading.

While these newer conceptions of insanity have been partially understood for some time, more especially in Germany, yet no systematic attempt to enforce their practical teaching in America took place until within the past few years, and at the present time there are but three text-books[2] to my knowledge published by American authors in which these newer and more correct views are set forth, thus embodying their establishment in American scientific medical literature. Without any desire to burden you with evidence of the fallacy of the older teaching by which these three common psychoses were considered distinct and separate clinical entities, it will suffice to remind you that it was very obvious to those who had large opportunity of practical clinical experience that changes in the emotional nature or variations in the states of feeling common to the sufferers of the acute forms of insanity were absolutely of too evanescent a character to be made the basis of any scientific system of classification.

These at best are unreliable guides, and, consequently, misleading, for under such a method any new symptom or group of symptoms in which there was a decided manifest change in the condition of the emotional element would suffice to establish a separate species of insanity. For instance it is clear to those who have had any experience that cases of melancholia often present symptoms of mania and later those of dementia. The conception of these very different mental states represented in the same individual as being distinct morbid entities, has long dominated psychiatric teaching. That this view was based on the changes in the emotional nature of the patient is evident, but such fluctuating states of feeling are now recognized to be altogether too misleading to form the basis of accurate scientific classification, hence Kraepelin's proposition to make the tendency of the underlying disease process, whether toward recovery or dementia, a criterion of the character of the psychoses is certainly helpful. In this form of classification all the elements are included which belong to its cause, symptoms, course, duration and final outcome, and each is given the proper recognition it richly deserves. From this standpoint melancholia and mania are considered due to the same pathologic process, and while we are as yet unable to satisfactorily explain its special pathologic character, the clinical correctness and validity of this position can not successfully be gainsaid. Moreover, clinical observation and experience demonstrates the truth of the assertion that, when this principle is applied to the acute psychoses, one group of cases naturally tends toward recovery, while still another class has a characteristic tendency toward dementia. On this clinical fact depends the future welfare of our patient, hence, in every case of acute psychosis we look from the outset for the prognosis, as in the former case a favorable opinion can safely be ventured, while in the latter case the prognosis is beset with serious misgivings. Thus it will be seen that the trend of modern psychiatry is toward simplification in classification whereby a single species of insanity takes the place of several under the older methods, as well as establishing a new criterion by which the essential tendency of the disease as a whole is recognized and its natural clinical character revealed in the form of either recovery or dementia, which again determines its favorable or unfavorable final outcome, thus establishing a correct rule for prognosis.

Again the trend of modern psychiatry can be seen in the movement whereby the more accurate or recent insane can receive appropriate accommodations and treatment at the various general hospitals of our cities rather than be referred, as they are now, to the state insane hospitals.

In making this statement I trust it will not be understood that I undervalue the service rendered these poor unfortunates by the medical staff of our state institutions—far from it, for I have the very highest regard for them and their work, as well as for the magnificent structures in which they dwell; but as it now stands, scarcely any general hospital will receive for treatment persons suffering from mental derangement. The reason for this is well understood, even though a great injustice is sometimes done by such a rule. In the majority of instances at the present time such general hospitals are not prepared to receive such persons because the very nature of the case requires special quarters and privileges which are not now supplied or available. Moreover, the environment of the medical and surgical wards of the average city hospital are not calculated to benefit the recent or more acute forms of the various psychoses, and this is often urged against their admission.

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[2] Brower and Bannister: Practical Manual of Insanity. Reference Handbook, Medical Sciences, 1903. Berkeley on Mental Disease.

But there are several good scientific reasons why provision for this class of patients should be made in our general city hospitals. Indeed, it is highly desirable that such cases should be admitted, and it is one of the hopeful signs of medical psychiatric progress that such a movement has already been inaugurated. Perhaps the most important reason, and that to which all others would appear subservient, is the fact that in its incipient stage insanity is most curable. Indeed, it is infinitely more curable than typhoid fever, pneumonia or even rheumatism and kidney lesions. The curability of insanity in its incipient stage is so very striking that it appeals to our more serious consideration, and while this truism has been emphasized for centuries we are so very slow in taking advantage of its true significance that I make that my excuse for again urging its recognition and practical importance. How very desirable to receive such persons in the early formative period of the malady, before the more serious complications occur, such as delusions, imperative concepts or phobias, hallucinations, suicide, homicide, or even incoherence. That we are then enabled to study more especially the causes, whether they be toxic or otherwise, and thus gain control or stay the progress of cell disorganization or even remove the conditions which favor their development, is clear to all.

The dilly-dallying process, however, of waiting for further developments, as now commonly practiced on the part of both physician and the friends of the patient, would largely be removed if our city hospitals would receive such persons for treatment. Moreover, this unfortunate disposition to wait often decides the question of prognosis whereby a presumably curable case is rapidly transformed into one of absolute incurability. On inquiry we often find this failure to act promptly depends on one or more of four conditions, viz.: 1. Ignorance of the necessity of providing prompt and appropriate treatment. 2. Fear of the stigma which follows commitment or exposure of family secrets. 3. Failure to recognize that insanity implies irresponsibility and that suicidal complications develop early. 4. Lack of funds to defray the necessary expense involved in the treatment. All these elements cause the parties interested to hesitate before taking the necessary steps to provide suitable and appropriate treatment. If the general city hospitals would make special provision by adopting a psychopathic department for such patients and receive them at a moderate financial rate or even on the same basis as other patients are now admitted, the prevailing objections would speedily disappear and it would become as common to refer the insane to such hospitals for treatment as it is now those suffering from typhoid or pneumonia.

The special advantage of such an arrangement would certainly tend to increase the percentage of recoveries, which is always so highly desirable and which constitutes the true aim and object of practical scientific psychiatry. The more accurate systems of classification that are now enforced render finer discriminations in diagnosis possible, which again improve our methods of treatment. Hence the trend of modern psychiatry is toward greater individualized care of the insane. This is greatly aided by the more correct and improved methods of examination, which again depend on the more strictly scientific laboratory processes and modern mechanical appliances, all of which tend to enlarge our practical, clinical and therapeutical resources. In conclusion, it is my conviction that psychiatry has yet a great work before it, as well as a rich field for conquest in separating the various fads and frauds of the day and substituting in their stead scientific medical truth as revealed in the practical observation and experience concerning the demonstrated facts which pertain to mental influence and placing them on a practical scientific basis. That nervous and mental diseases are not always amenable to either pharmacology or surgery is very certain, but that they are powerfully influenced for good or ill by mental and moral means, as well as by the nature of their environments, is a statement in accord not only with our best knowledge, but also with our experience and judgment. That these psychologic means and measures powerfully affect the results obtained in their treatment is also very clear to every thoughtful physician, but that their specific nature as well as methods of application are not as well understood by the profession as they should be is also true. It would, therefore, seem within the legitimate province of the science of psychiatry to rid mental therapeutics of their empiric value by practical dmonstrations and by the teaching of the genuine, thus differentiating the true from the false by appropriate, practical methods, and recognizing their special virtue by placing them on a scientific, ethical basis. To sum up, it would appear that the general trend of modern psychiatry is toward more strict accuracy in classification and diagnosis of mental disorders by the practical utility of all the recognized modern means and methods known to medical science. These again establish a more correct rule for prognosis, besides suggesting a plan of treatment to be adopted for their relief, all of which, when duly applied by the general medical practitioner, will not only aid him in the differentiation of the various psychoses and allied disorders, but will also furnish him the secret to their more successful care, management and treatment, which, after all, is the true aim and object of all practical medical science.

## DISCUSSION.

DR. F. SAVARY PEARCE, Philadelphia—*I think we all agree that to send certain cases of acute insanity to the general hospital instead of to the insane asylum is not only practicable, but highly desirable. We know that certain cases of acute insanity will recover, and if such patients could be sent to a general hospital their recovery could be hastened, and they would be spared the stigma of having been inmates of an insane asylum. A special ward should be set aside for these patients in the general hospital; otherwise the general medical men connected with the institution will surely find legitimate reasons for objecting to the presence of this class of cases in the hospital. In the institution with which I am connected I hope in the near future to see a special ward set aside, as far distant from the ordinary wards as possible, where cases of acute insanity can be treated. Another point is that the members of the patient's family are often the very ones who insist that he be sent to an asylum. The physician must educate the public to the fact that insanity is not infrequently a curable disease. We know that a great many of the incipient cases of insanity, and even some of the chronic cases, recover. According to Dr. Richardson, of the Norristown Asylum, 50 per cent. of the cases admitted to the asylum recover. I am convinced that the treatment of the insane must be revised very thoroughly. If the public could be made to appreciate the fact that patients suffering from insanity recover as frequently as do those suffering from many other diseases, I am sure that they would give us their coöperation in the establishment of special wards for the insane* in the general hospitals. This would also rid insanity of much of the mystery that now surrounds it.

Dr. Daniel R. Brower, Chicago—It is not very long since I suggested the establishment of psychopathic wards in general hospitals. Since then, great progress has been made toward the realization of this project, and one of the most hopeful signs, as Dr. Punton has told you, is the amalgamation of the American Psychological Association with the Congress of Physicians and Surgeons. But this object is not always attainable. The maintenance of such a special ward is a very expensive affair. Since I gave up the medical superintendency of a hospital for the insane, I have been engaged continuously in the treatment of acute cases of insanity in a general hospital, and I think I have had a fair measure of success, sufficient, at least, to induce me to continue. Of course, cases that are treated in these general hospitals must be selected with care, and if that is done, a considerable number of them can be safely admitted. I wish to emphasize the point that it is possible, in well-selected cases of acute insanity, to get satisfactory results in the general hospitals.

Dr. R. Harvey Cook, Oxford, Ohio—In arguing for the admission of the acute insane into a ward of a general hospital, instead of a hospital for the insane, you imply either that the acute case can be better cared for in the general hospital, or you are endeavoring to prevent the stigma of insanity. If the acute case can receive better care, so can the more prolonged case. It then makes it imperative to convert our hospitals for the insane into general hospitals for humanity's sake. If, on the other hand, it be to avoid the stigma, how grossly unjust to the less acute case. Would it not be far better to place all insane cases in a hospital for the insane where proper classification can be had? Educate the people, let them know and feel that insanity is of no more disgrace than typhoid, thus removing in a short time the so-called stigma.

Dr. J. H. McBride, Los Angeles, Cal.—I think we are all gratified to note that a change has taken place in recent years in the treatment of the insane, and that more attention is paid to-day to general medicine in the insane asylums than ever before. In regard to the curability of insanity, I can hardly agree with Dr. Punton. I think his proportion of recoveries is too large. My own experience is essentially summarized in the statement of a French alienist, whose name I forget. He said that of ten insane persons, five would recover from the first attack, and five would not recover. Of the five who recovered, two, certainly, and probably three, would relapse; the other two, or possibly three, would remain well. This leaves a probable recovery rate of 20 or 30 per cent.

Dr. Richard Dewey, Wauwatosa, Wis.—What impresses me most in regard to this whole subject is the difficulty of drawing definite lines, and the danger in making sweeping assertions. Insanity is so complex a condition that it is scarcely possible to generalize. There is a large number of persons who are insane in the ordinary sense of the term, and who, nevertheless, can be treated in the general hospital; then there are other cases for whom that plan is entirely inadmissible. We must ascertain whether the form of insanity is associated with dangerous or disagreeable elements before we can decide whether a certain patient can be treated in a general institution. Some insane patients are noisy; others have suicidal or other dangerous tendencies, and for all such special provision must be made. I do not doubt the desirability of treating certain cases of acute insanity in the general hospital, but the cases must be carefully selected and suitable provision must be made for them in the way of isolated rooms. I believe that this question will eventually work itself out if each of us not only will do the best he can with cases that come to him, but also especially make an effort to enlighten the general profession and the community. This class of patients also requires freedom in coming and going under suitable regulation. They should spend much of their time out of doors, especially in the pleasant season of the year, and the city streets are not good places for insane patients. Institutions where they are cared for should be surrounded by grounds where these patients can get plenty of outdoor exercise. I greatly appreciate the fact that the subject of insanity does not occupy the isolated position it formerly held, and that this disease is now being studied very much in the same manner as are other diseases.

Dr. Albert E. Sterne, Indianapolis—For many years I held the view that so-called observation or reception hospitals would be very desirable in connection with the treatment of the acutely insane. In experiments that have been made in that direction, however, as wards in connection with general hospitals, it has been found that in the vast majority of those cases it became necessary to send them to an insane asylum after a comparatively short period of time. No alienist can foresee, in any given case, even of the mildest type, what the duration of the psychosis will be. He may in certain instances approximate its duration, but it is a rather common experience that the very worst cases of the acute variety of insanity, sometimes with the most unpromising outlook at the beginning, both as regards their personal aspect and the family history, may improve within a few weeks or even days, especially where the digestive element is a prominent one. Then, again, we have the experience that in the acute, seemingly mild cases, which we would prefer to send to the general hospital, the symptoms may steadily grow worse, and the patients may take weeks, months or even years to recover. No general hospital could possibly take care of these cases for any great length of time. It is unfortunate that a few insane must suffer with the general mass of the insane. It is unfortunate that a comparatively small percentage of persons who were insane for brief periods should have such a stigma placed on them. They could no doubt have been treated just as well, or even better, in a general hospital or at home. The Scotch plan of treating insane patients by the colonization method, which affords them plenty of freedom and out-of-door exercise, has proved to be excellent, but for the ordinary run of cases it would be found impracticable. The establishment of a detention hospital, separate from the main asylum, would be better. The fact has already been brought out that relapses are not uncommon among these acute cases. According to one of the German authorities, a vast majority of the cases of mania and melancholia suffer from relapses, and even in the interim it is a question whether they are entirely free from the disease. While I am an advocate of the detention hospital, I should not be in favor of separate wards for the acutely insane in the general hospital. I think such a measure would prove inimical to the majority of the patients in such an institution, and even, in the end, to the insane patients themselves.

Dr. William J. Herdman, Ann Arbor, Mich.—At the time Dr. Weir Mitchell made his strictures on the medical management of the insane asylums, I think he scarcely did justice to what was being done. In those years, the officials of many of the insane asylums were greatly handicapped by conditions under which they were doing some very good work. I know this was true in the Michigan asylums, and I was very familiar with them at that time. As we progress into a new field, we must go largely along the skirmish line, and do a great deal of individual work. In doing this, a man may not always be fully understood by his fellows. We have passed beyond that skirmish line now, and the main column is moving on. We are forming a line of battle, and each one is doing his part in clearing the field. I think the alienist has done his part, and done it well. I believe that the humane management of the insane has been developed to a degree that it could not have been developed by any other method. The time has now come for a change. That such a necessity is present, we all recognize, and with that portion of Dr. Punton's paper I am fully in accord. There is greater harmony between the alienist and neurologist, and this is as it should be. I believe that there is an opportunity for us to do most excellent work in dealing with acute cases of insanity in the general hospital. The percentage of such cases, however, is not very large; certainly not beyond 20, and I doubt if it would reach that. The number would be limited largely to cases of incipient insanity, associated with disorders of the eye or ear, or of the genital organs or gastro-intestinal tract. Such factors not infrequently act as the last straw in overturning a weakened brain from a condition of sanity to insanity, and it is in that class of cases that treatment in the general hospital would be most desirable. Another factor to be contended with is the family of the insane patient. Many families refuse to allow their relative to be immediately sent to an insane asylum, whereas if such a patient could be sent to a general hospital, the consent of the family could be readily obtained. In these cases of acute insanity, prompt treatment is the most important element. In connection with this subject I recently made a suggestion which I think would cover the ground very well. In every state we have a number of well-equipped insane asylums, each one covering a certain district. For example, in Michigan we have four such asylums. Why would it not be feasible to establish in each of these districts subsidiary establishments, under the charge of a competent trained nurse? These dispensaries, if you would so term them, could be established in a private house, or in connection with private sanitariums, and the patient could be kept there until the superintendent of the asylum in that section of the state could be notified. Then the latter or his assistant could go and investigate the case, in consultation with the physician who had charge of the patient. Then, if the case seems to be a suitable one for the general hospital, let it be sent there; if not, it can be sent to one of the asylums. It seems to me that such a plan would prove both feasible and satisfactory. In many of these districts there are alienists who could arrange the details regarding a temporary residence for these patients.

DR. G. W. MCCASKEY, Fort Wayne, Ind.—In Fort Wayne we have two fairly well-equipped rather small general hospitals, and our experience there with the treatment of cases of acute insanity has not been satisfactory. Some one in this discussion has said that 20 per cent. of the cases of acute insanity will be manageable in a general hospital. In my experience, it is even less than that. Furthermore, we can not foresee which of the cases belong to the 20 per cent. In one of our hospitals we have an entire floor, so far removed as possible from the other patients, reserved for the insane, and our experience has been such that I do not regard the plan as desirable.

DR. JOHN PUNTON—I think Dr. Weir Mitchell is entitled to much credit in being the originator of this modern method in reference to the better treatment of the insane. I agree with Dr. Dewey that every case of acute insanity is a law to itself, and it is almost impossible for any alienist to tell exactly what can be done for any case in the incipient stage. In reply to Dr. McCaskey, in my paper, I did not have in mind those cases that require bars to hold them, or those with suicidal tendencies. The ones I had in mind for general hospitals are the borderline cases.

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# ARTHRITIS DEFORMANS.

## THE REPORT OF A SERIES OF ONE HUNDRED AND TEN CASES FROM THE JOHNS HOPKINS HOSPITAL.

(FROM THE CLINIC OF PROFESSOR OSLER.)

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*(Concluded from page 96.)*

### GROUP IV. SPONDYLITIS.

As already said, the cases with spinal involvement fall into two groups, one with general, the other with local involvement. The former is readily diagnosed, the latter is certainly much more easily overlooked. These cases are usually considered to belong to the "osteoarthritic" group. The bony changes predominate, and especially new formation of bone. Certain writers hold that the osteoarthritic cases are quite distinct from the type previously spoken of as "rheumatoid" or those in which other than bony parts are especially involved. In certain of the cases of this series there seems no doubt of the *occurrence of both types in the same patient.* If this be true it goes far to prove that all the cases here grouped under the heading of arthritis deformans do belong to one disease which has various types. Not only were the two types of arthritis found in the one patient, but in some of those showing only osteoarthritic manifestations there was a history of attacks of acute polyarthritis exactly like those described under Group II, and from which the patient had recovered apparently completely. The histories are so characteristic that there seems little doubt of the nature of the old attacks.

There were 22 cases showing spinal involvement. In 13 of these there was spondylitis alone, while in 9 this was accompanied by symptoms in other joints; in other words, the lesions were of the polyarticular type, and these have been included in the analysis of Group II. In taking up the study of this group it is sometimes difficult to distinguish the symptoms from the spine and those from the other joints. In reference to the extent of spine involvement the cases were as follows:

| | Gen. inv. of spine | Local inv. of sp. |
|---|---|---|
| Spine only involved[8]...... | 6 | 7 |
| Spine and other joints[8]...... | 9 | 0 |

It is worthy of note that when the spinal involvement was associated with changes in other joints in no instance did we recognize involvement of a portion of the spine only. But, as said before, the confession is frankly made that only recently have we learned to diagnose the local form, and it is quite possible that instances of it have been overlooked. For the same reason the relative figures of these groups mean little as to their comparative frequency.

*Incidence.*—Of the 22 cases, 20 were males and 2 females. The striking preponderance of males is to be noted, especially as the other type is thought usually to occur much more frequently among females. All are white. The ages were as follows:

| | | | |
|---|---|---|---|
| 1 to 10...... | 0 | 41 to 50...... | 2 |
| 11 to 20...... | 1 | 51 to 60...... | 2 |
| 21 to 30...... | 6 | 61 to 70...... | 2 |
| 31 to 40...... | 9 | | |

*Complaint.*—This, in the majority, was of pain and stiffness in the back and legs. With this mention was often made of the crippling and general weakness. A few laid especial emphasis on the pain.

*Onset.*—The age of this was:

| | | | |
|---|---|---|---|
| 1 to 10...... | 2 | 41 to 50...... | 1 |
| 11 to 20...... | 10 | 51 to 60...... | 2 |
| 21 to 30...... | 4 | 61 to 70...... | 1 |
| 31 to 40...... | 2 | | |

Only 7 cases were admitted below the age of 30 years, but in 16 the onset was before 30. The onset in a few over the age of 50 is to be noted. The early age at onset in so many of the cases is striking.

The onset in the 13 spinal cases was gradual in 11 and sudden in 1, with one doubtful. In two of these there was a history of previous acute attacks of polyarthritis which subsided and left apparently no damage. These are exceedingly interesting. One may be noted briefly:

No. 61.—J. H., white, male, aged 45, was admitted complaining of stiffness of the back. There was a history of arthritis deformans in his family. From childhood he had at times some arthritis. With these attacks he was usually laid up, but never for very long. At 28 he had his first severe attack. This involved many joints and he was two months in bed. He recovered gradually and was well for seven years, when he had another attack with many joints involved, and the neck slightly. Three years and five years later there were subsequent attacks, in the last one his spine becoming stiff. On examination the joint changes were practically confined to the spine and hips.

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[8] To prevent confusion it is convenient to refer to these two classes as the "spinal" and "mixed" cases.

In other cases there seemed little doubt of previous attacks of local spondylitis, from which they recovered completely, and were practically well for many years. There were seven with very suggestive histories of these previous attacks with apparent recovery at any rate from symptoms. These intervening periods varied from two to eighteen years. One can not help wondering if in some of these cases it is only some accidental occurrence—such as an attack of influenza—which determined another attack. If this be true it may be that many cases may recover at any rate from ordinary symptoms of the disease.

*General Features of the Spondylitis Cases.*—These are most characteristic in the cases of general involvement. The spine is fixed and the term "poker-back" is most expressive. In some the head is held forward and there is marked bowing of the upper spine, and all rotation in the cervical region is lost. The patient to look about has to move the whole body. There is much difficulty in stooping, and on an attempt to pick an object from the floor they have to crouch down without any bending of the spine. On examination, the natural curves of the spine are often lost and the bowing of the upper dorsal and cervical regions is at times marked.

In the type with local involvement the picture is not so striking. The area involved is usually the lower dorsal and lumbar regions. The patient may make complaint of the back—commonly of pain and stiffness, which he may refer to the spine or dorsal muscles—or very often, of pain in the legs. This latter is common, especially over the course of the sciatic nerve, and there is little doubt that many of the cases regarded as sciatica are really arthritis deformans of the lower spine. Too often the diagnosis of neurasthenia is made, and perhaps also lumbago—whatever that term may mean. These cases on ordinary examination show nothing. It is only on the attempt to have them do certain movements that the rigidity of the spine becomes evident. This can be demonstrated by having the patient stand with the feet together. The back should be visible. Then with the hips held, to prevent movement, the patient is asked to bend forward, backward and to the side. The restriction of free movement at once becomes evident, and it may be further shown by asking him to pick up an object from the floor. The marked interference with free movement between the vertebræ is very evident.

Certain curious features occur in some of the cases. There may be some alteration in the natural curves of the spine. Lateral curvature may be present. The upper part may be bowed with the convexity backward and the head held far forward. There may be marked prominence at the junction of the cervical and dorsal regions (1 case), or the lumbar curve may have disappeared (4 cases). There may be one prominent lumbar spine (1 case). The neck may only be partly ankylosed. Bony thickening may sometimes be felt about the neck vertebræ (2 cases). In 1 case the neck was rigidly fixed to one side. Occasionally the back muscles—especially in the lumbar region—may be very rigid or they may show wasting.

In some instances the hip joints are involved and there is restriction of movement there. In others, the symptoms are all referred to one leg, and the patient may systematically "save" it, and so usually walk on the toe or with the knee slightly flexed. Such cases are often mistaken for tuberculous hip disease. Some of these patients may limp very markedly.

*Emaciation.*—This is often marked, and was especially so in our group of mixed cases. With this there may be marked pallor, although this is usually more marked than the actual anemia. The local wasting is often very extensive. The muscles of the back, but especially those of the buttocks and legs, suffer. This does not seem to be always symmetrical. One side of the spine at times may be more involved, and the wasting be greater also on that side.

*Reflexes.*—These are usually increased in the legs, both the knee jerks and the tendo Achillis reflex. With this increase in the legs, the arm reflexes in the local spinal cases are usually normal. In only one case was a diminished knee jerk noted. The cremasteric reflex was increased in 2 cases and an ankle clonus was obtained once. In 1 case with signs more on one side the reflexes, including the cremasteric, were all increased on this side and normal on the other.

*Temperature.*—Of the 13 spinal cases in 4 this was normal, in 5 it averaged 99 F., and in 2 it varied from 99 F. to 100 F. Of the mixed cases 3 had a normal temperature; these averaged 99 F.; 2 varied from 99 to 100 F.

*Pulse.*—In the spinal cases, 5 were normal (70 to 80 F.), 4 were between 80 and 90 F., and 3 between 90 and 100 F.

*Blood.*—In the spinal cases there are counts in 4 with an average hemoglobin percentage of 76; red cells, 5,205,000, and leucocytes, 7,800. The leucocyte count was over 10,000 in only one instance (11,300). In 4 mixed cases the averages were: Hemoglobin, 69 per cent.; red cells, 4,980,000, and leucocytes, 6,300. These findings are practically negative. The differential counts were normal also in both forms.

*Tuberculin.*—This was given in all the spinal cases and always with a negative result. It is a great help in the matter of diagnosis.

*Radiographs.*—These show a very characteristic condition. In all but probably the very early cases, definite deposits of new bone can be made out.

### PATHOLOGY.

In this osteoarthritic group we have usually a marked overgrowth of bone. There is proliferation of the articular cartilage and later ossification of these outgrowths. Certain other structures may also be involved in the bony change, such as the ligaments or fibrous tissue. These bony structures usually show little alteration in their histologic structure from ordinary bone. There is marked hypertrophy of bone in contradistinction to the type previously described where atrophy predominates.

In the spine the process frequently begins on the anterior aspects of the bodies of the vertebræ and extends along the ligaments. With this there is deposit of new bone. This may mean a more or less continuous bridge of bone, and in the radiographs of such cases the bony deposits can readily be seen between the bodies of the vertebræ. These may be on one or both sides, but in early stages are often unilateral. The subsequent course is very variable. The process may advance only slightly and there be comparatively little change. If the process be very active the intervertebral cartilages may be replaced by bone before any absorption occurs. In such cases we have the typical "poker-spine," simply one continuous bony column. Should there be gradual atrophy of the cartilages without replacement by bone, gradual curvature will result. This is seen very markedly at times in old men, who make little complaint of any symptoms. Should such a process occur more on one side we get a lateral curvature. All these various processes may occur throughout the whole spine or be limited to certain regions, most often the lower dorsal and lumbar.

These changes may also occur in the posterior portions of the vertebræ and the lateral or spinous processes be involved. The articulations may be involved both between the vertebræ themselves and with the ribs. This latter gives an interesting condition, namely, almost complete absence of any movement of the ribs and a practical loss of all costal breathing. This was very marked in some of the cases of this series. There may even be severe pain complained of—in the acute stages—when the patient tries to take a long breath, as was well instanced in one of our cases. Should the formation of bone encroach on the foramina it is readily seen why pain referred to the distribution of the nerves passing through them is so common. This, too, may be on one side only, with unilateral involvement.

It is readily seen from the lesions why the symptoms are so varied. The stiffness is, of course, due to the local conditions. Pain may be in the back itself, but is very frequently referred to the areas of distribution of the nerves involved.

### DIAGNOSIS.

As in the acute polyarticular form, the knowledge of the condition is an essential to its recognition. The cases of general involvement are so characteristic that a glance is usually enough to give the diagnosis. There is no need to dwell on them. But with the local forms the story is different. We have long been blind to what was before our eyes very frequently. To Dr. Goldthwait[9] of Boston much of the credit of drawing attention in this country to these conditions is due.

The symptoms complained of most commonly are stiffness, interference with motion, pain and muscular weakness. It may be that many of the indefinite pains complained of in the back, especially in the morning on waking, are due to this condition. Lumbago, while probably rheumatic or gouty in some, is perhaps at times due to this. Many of the cases of so-called "sciatica" are caused by arthritis of the spine, and also instances of obscure pains in the legs and about the body.

There is no intention of suggesting that every case of pain in the back or of sciatica is due to spondylitis, but it is suggested that in every such case it is most important to examine the back. Some cases otherwise regarded as neurasthenia with complaint of pain in the back (which is, unfortunately, only too common a combination), will be found to have local arthritis of the spine. Patients complaining of sciatica may have the same condition.

Of the methods of diagnosis first comes the examination of the spine. The patient should be completely stripped, or down to the hips at least. In the majority of cases little is to be made out. There may be some curvature, or a projecting spine, or more commonly an obliteration of the lumbar curve. There may be wasting of the dorsal muscles, or in the gluteal region, or of one or both legs. In some the attitude is suggestive. They stand with one leg a little flexed and "favor" that side. These results may be only suggestive. Next comes the investigation of the mobility of the spine. With the legs straight, the patient is asked to bend forward and touch the floor, bend back and to each side. Any limitation of motion is very readily recognized. This may be equally marked in all directions, or only in one, although usually at least two are combined. He may bend forward but a very short distance and to one side much less than the other, or lateral movement to one side only may be much restricted. These variations are very readily understood in view of the pathologic anatomy. These movements may cause pain, either local or referred. An attempt to bend to the right may cause the same pain in the leg of which the patient complains. The attitude on attempting to pick up an object on the floor is often characteristic. With this the sensation should be tested; areas of altered conditions are important. The reflexes are usually increased.

The diagnosis may be fairly clear from this examination, but there are two important aids, namely, tuberculin and the *x*-ray picture. The use of tuberculin excludes the most common source of difficulty, although tuberculous disease of the spine rarely gives the same disease picture as spondylitis. In some instances there is marked involvement of the hip joints with the spondylitis, and this may have led to a suspicion of tuberculous hip-joint disease. The radiograph, if it shows anything, is usually characteristic. The deposits of bone usually appear as shadows between the bodies of the vertebræ. In early cases, of course, little may be seen, and in very fat patients it may be difficult to get a clear plate.

Should the diagnosis not be certain with any of these methods, one help remains—the therapeutic test. Put a light plaster jacket on the patient, which should extend from the axillæ to the level of the trochanter, and if there be spondylitis there should be marked improvement in the symptoms in a few days. This is especially useful in the cases with sciatica.

### TREATMENT.

As in the other type, attention should be given to the general nutrition. The same rules for the care of the general health, fresh air, sunlight, nutritious diet and tonics (the syrup of the iodid of iron, arsenic, cod-liver oil, etc.), should be carried out. With these, massage, bathing, hot air and baking to a limited extent, may all be used. Locally, the great object to be attained is rest. This can not be done by keeping the patient in bed, unless the back be well supported, and this is difficult to accomplish properly. Some kind of jacket is more suitable. Perhaps the best plan is to put on a plaster jacket for two to four weeks, and then a strong enough leather one to serve the purpose. With the parts at rest, the pain lessens and the muscular irritability diminishes. In the cases with much curvature the muscular contraction is often largely responsible, and a month with the jacket may almost completely correct this. The jacket should be put on with the patient standing as straight as possible, but no force should be used. If there be deformity, the jacket will often gradually correct this, and a second one can be put on in two weeks. The jacket or support should be worn until the process is at a standstill, and later some lighter apparatus may be substituted. In such cases, after the condition is improved, every care should be taken to keep the general health as good as possible to lessen the chances of subsequent attacks.

In the cases with general involvement the damage is done. Some form of light jacket may give relief, but the general health is the most important thing we can influence.

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[9] Boston Med. and Surg. Jour., vol. cxli, 1899, and vol. cxlvi, 1902.

The early diagnosis is the most important consideration in treatment. But in the prognosis one has to keep in mind that the disease may advance steadily despite all treatment, and that the most that can be done is palliative.

### CONCLUSIONS.

The points to which special attention is directed are:

1. The frequency of the occurrence of acute polyarthritis in arthritis deformans and the danger of mistaking this for acute rheumatism.
2. The importance of the recognition of the spinal forms of the disease, especially the local involvement.
3. That in arthritis deformans we have an obscure disease of considerable frequency worthy of study, especially from the etiologic aspect.

### DISCUSSION.

Dr. James J. Walsh, New York—There is nothing more used to give lasting reputation to quacks than the treatment of chronic rheumatism. If the disease be examined very carefully it really resolves itself into a series of affections not rheumatic at all, nor does it have any relationship to articular rheumatism. The latter runs a definite course and is cured completely and no marks are left in the joints at all. Rheumatic arthritis considered as an acute disorder which leaves marks in the joints, is quite another affair. The term "rheumatism" is likely to cover many mistakes in diagnosis, and many errors and negligences. There are three things that are mentioned in the newspapers, catarrh, rheumatism and gout, and curiously enough the three words mean exactly the same thing; etymologically, they mean "to flow," or "to have excessive secretion." Few recognize the fact that acute rheumatism never becomes chronic rheumatism. Rheumatoid arthritis is another disease especially in this country, and is not affected by the remedies commonly used in the treatment of rheumatism. It is to be hoped that in the beginning of the twentieth century something will be done to clear up the large group of cases called "chronic rheumatism" and bring a little order out of chaos. The word rheumatism has been abused to an enormous extent, and so long as practitioners are satisfied with this for diagnosis, rational therapeutics is impossible.

Dr. J. T. Moore, Galveston, Texas—During the past four or five years that I have been connected with the department of medicine in the University of Texas, I have been looking for just such cases as Dr. McCrae has reported to us. Two years prior to this I was demonstrating anatomy, and since then I have tried to keep up my connection with the department of anatomy. We have been astonished at the large number of cases we have had in the dissecting room with this disease, the changes occurring in the joints, and yet not recognized prior to death. Some of these cases were diagnosed as chronic articular rheumatism, and some were not diagnosed as rheumatism at all; yet we found various changes in the joints when they were examined in the dissecting room. As physicians we should enter more on the investigation of this disease. It is evident that most of these cases are not due to chronic rheumatism, although so often diagnosed as such, but to arthritis deformans. I know of one case in particular suffering from intense pains in the legs. I told the man that he had sciatica; then I afterward told him he probably had chronic rheumatism; but there is little doubt in my mind that if he were brought to the postmortem table some changes might be made out in the vertebræ, showing it to be arthritis deformans.

Dr. C. E. Skinner, New Haven, Conn.—The victims of arthritis deformans are numerous enough and miserable enough to justify a demand on their part that we put ourselves in a position to do something for their relief, and a correct and early diagnosis is the first and most important step in this direction. The majority of physicians confound this disease with others of an entirely different nature, prominent among which may be mentioned rheumatism, neuritis and gout. Rheumatism is comparatively easy to cure under modern therapeutic methods, neuritis is considerably more resistant than rheumatism, and arthritis deformans presents a very difficult problem under any conditions, and especially so when a correct diagnosis and the inauguration of a proper line of treatment have been delayed long enough for profound pathologic changes to have taken place in the joint structures. The condition of some of these victims of failure to recognize the ailment early is pitiable, indeed, from extensive ankylosis of the large joints, which condition complicates the therapeutic problem to a marked and sometimes totally unmanageable degree. The importance of correct and early diagnosis, moreover, is well brought out by Dr. McCrae when he says that arthritis deformans is usually made worse by antirheumatic or antineuritic therapeusis. This has also been my experience. I know that it is almost, if not quite, impossible to differentiate some cases of arthritis deformans in the early stages from acute articular rheumatism, but in the majority familiarity with the clinical aspects of the subject and a proper degree of care and thoroughness in the study of the individual case will render possible a positive determination as to the nature of the pathology present. Then an appropriate line of treatment can be adopted at once and the patient will be saved from much future misery. More work should be devoted to the diagnosis of this disease, and when this is generally appreciated it will be better for our patients, and they will have less just cause for complaint.

Dr. Thomas McCrae, Baltimore—There are many aspects of the disease, and there were only two or three that I hoped to emphasize in my paper. I said nothing regarding the etiology; that is a doubtful matter, although the evidence, to my mind, points toward infection with one specific organism or several. The nervous symptoms may be explained by the fact that they are largely due to toxins.

With regard to early diagnosis, the importance of that is very great, and may give us the possibility of preventing later changes.

In regard to the treatment there are certain general principles which should be considered in both types of the disease. Good nutrition, sunlight, fresh air, and good food are essential. Patients who have not obtained those will be more likely to have subsequent attacks. The syrup of the iodid of iron is good, given alone or alternating with arsenic. This should be continued not for months but for years. Massage is usually helpful. Baths are of doubtful utility in many cases. When we consider the local treatment we should think of the two groups. In the osteo-arthritic form rest is very essential, but in the rheumatoid group exercise is essential. In the spinal cases the patients should be placed at rest for a time. In the rheumatoid cases if the patients are kept in bed there may be contractures, muscular atrophy and the joint changes may progress. In the treatment of such cases two things are very essential, viz., patience and perseverance, both in the patient and in the physician.

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Malpractice Defined.—A physician or surgeon is liable to be sued for malpractice in treating a patient: 1. When he does not possess ordinary skill, science, and information; or, 2, when he does not use reasonable and ordinary care and diligence in applying his knowledge and exercising his skill; or, 3, when he does not use a reasonable and ordinary degree of skill and knowledge in treating the patient; or, 4, when he does not exercise ordinary care and diligence in attending and treating the patient; or 5, when he fails to give proper instructions to the patient as to the care of himself; or, 6, when he fails to use ordinary care and diligence in determining the frequency of his visits and the cessation of the same; or, 7, when he fails to follow the established modes of practice of his particular school and the advancement in it, and injury results to the patient. And all this whether or not he is to receive compensation.—*Medicolegal Bulletin.*

# THE NECESSITY FOR MEDICAL TRUSTEESHIP AND FOR A CENTRAL LABORATORY IN STATE MEDICAL INSTITUTIONS.*

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The contact between the medical profession and the state medical institutions is not close enough. This is true everywhere in the United States. It is particularly true in Ohio. Among the thirty-five trustees governing the eight principal state hospitals in Ohio there are at present but three medical men as members of the boards. To be sure, the medical profession has a representative as local executive head of these hospitals and a number of medical men are employed in the capacity of assistant physicians. But in the real governing body, the one vested with final authority in all important matters, physicians are conspicuous by their absence. Such a condition is bad both for our profession and for the state institutions. The medical profession has much to gain from the proper administration of the state hospitals, and particularly in so far as it concerns the use of the vast material of these hospitals for the advancement of medical knowledge. The state hospitals are much in need of the support that would be afforded by active, broad-minded medical representation on the boards of trustees, for it is a fact generally conceded that the strictly medical work, and particularly the scientific work in these institutions, is far below what it should be.

As concerns the individual institutions, this state of affairs could be remedied by placing on each managing board at least one progressive medical man who could educate his fellow-trustees to the needs of the institution, and who, with his colleagues on the board, could secure the respectful attention of the state authorities and of the legislature. It would be needful, of course, to have in each institution an executive head who would be in warm sympathy with the ideas of medical improvement, and who would work in conjunction with the medical trustee.

It seems to me that a great and powerful organization that is working for the most unselfish of purposes—the advancement of human knowledge and the alleviation of human suffering—such as our medical profession is getting to be, should assert its right to participate in the management of the immense state medical institutions which are, after all, but creatures of our profession, and which each and all contain a vast storehouse of knowledge, for the most part now uncultivated. Our profession should declare in unmistakable terms that mere questions of shelter, food, and raiment are not the most important considerations in the conduct of these institutions; they should be, in reality, more than great state-endowed hotels for the insane and epileptic. Our obligations to humanity demand that as scientific medical men we should enter these hospitals and use their material for study, the aim of which should be the solving of the problems that surround the causation, prevention and treatment, not alone of insanity and epilepsy, but of other diseases such as are invariably found among an assemblage of eight thousand ailing human beings like those now filling the Ohio state hospitals. I predict that success would attend the effort were the now well-organized Ohio State Medical Association to make a formal request for medical representation on the governing boards of the state medical institutions, and I believe it would be possible for the association to secure favorable attention to the candidates whom it might, because of their peculiar qualifications, suggest for these positions.

By bringing into each individual institution a new impetus for scientific work through the efforts of an active medical trustee, much good could be accomplished. Funds could readily be found for a better equipment for medical, surgical and scientific work, and a high grade of physicians could be attracted to the service of the state. By this means a more intimate touch between the medical profession and the state institutions could be secured.

There is another plan that will bring the medical profession of the state at large in sympathetic relationship with the state hospitals, and that is by the establishment of a central pathologic institute as part of the state hospitals' system. The idea is certainly not original, for in the first place at least one state, New York, has already established and placed in successful operation a central pathologic institute; and the project is under way in Michigan, and is being actively discussed in Iowa and elsewhere. But there is a phase of the plan outlined for our state which is unique, and I believe important, and that is the one which proposes that the initiative in the movement looking to the establishment of a central laboratory be taken by the Ohio State Medical Association and that the preponderance of power in the management of its affairs be left in the hands of representatives from the association. To a considerable extent this would make the central laboratory a creature of the state association and the active interest of the medical profession would be retained.

In order further to make the central laboratory of the state medical institutions beneficial to the profession as a whole, it has been suggested that the collection of gross pathologic specimens which naturally would soon be assembled be held open to the profession of the state to become the pathologic exhibit of the state association. Further it would be desirable to have tables in the institute reserved for the use of members of the state association properly qualified to prosecute original research along such lines as would come within the scope of a pathologic institute.

Most of the members of the Ninth Councilor District assembled here to-day are doubtless aware that the project of a state pathologic institute was indorsed by the Ohio State Medical Association at its last annual meeting; that resolutions commending the plan were adopted, and a committee appointed to forward the movement. It was planned to bring the project to the attention of the general assembly which soon convenes. As a member of the Committee on the State Pathologic Institute I am prepared to say that plans have been formulated for an active campaign during the coming session of the legislature. The committee, however, needs the hearty support of every member of the association who can reach a state legislator, and I bespeak the active co-operation of the members of the Ninth Councilor District in our propaganda.

Given a laboratory located in Columbus, sheltered from political interference by the Ohio State University, drawing its material from the several state medical institutions in Columbus and from those scattered throughout the state, properly equipped and judiciously directed, the medical profession of Ohio would have a product to which it could point with pride, and the state an addition to its medical institutions whose benefits would ultimately reach all its citizens.

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* Address before the first meeting of the Ninth Councilor District Medical Society, Jackson, Ohio.

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# A PLEA FOR UNIFICATION AND UNIFORM ORGANIZATION.

J. N. McCORMACK, M.D.
Chairman of the Committee on Organization of the American Medical Association.
BOWLING GREEN, KY.

*To the Medical Profession of the State of New York:*

After correspondence on the subject with members of the Joint Conference Committee and others, more especially on the society side, I have been requested, as chairman of the committee which has had this work in charge from its inception, to prepare for publication an explanation of the plan of organization for state and county societies which has been so generally adopted in the last two or three years. As the plan was prepared and is recommended for universal adoption, is already in satisfactory operation in 32 states and in over 1,500 counties, and is likely to be adopted in nearly all of the other states as soon as their annual meetings occur, as the subject is one of interest at this time to every member and well-wisher of our profession, and more especially as the preparation of the plan for general adoption makes my committee as responsible to you for anything wrong in it as though we were members of your county and state societies, it seems entirely proper that the request should be complied with.

An attempt will be made to place beyond question the truth of the following propositions:

1. That existing professional conditions and estrangements are useless and senseless; that they are hurtful almost beyond calculation to both the profession and the public welfare, and that they are remediable.

2. That the plan of organization is based on our system of civil government; that it was prepared with much care and unselfishness, and that it contains nothing untried, experimental or impracticable.

3. That the county society is not only the unit of the organization, but the source of all authority and power in both the state and national bodies through a representative delegate system, and it is also the only portal of entry to the entire society system.

4. That coincident membership has been an old and perfectly satisfactory method in many states, is essential to complete organization, and that it is just and right. It would be as unfair to permit a physician to become a member of his county society and enjoy all the benefits arising from the labors of the state society, as to permit one to become a citizen of Ithaca or Troy without becoming a citizen of the State of New York and bearing the burdens and responsibilities of the same.

5. That amendment of any part of the plan is purposely made easy and is controlled by delegates from, and responsible alone to, the county societies.

6. That the time has come for unification, and that, while union under a defective plan, which the joint body could modify and improve for the common good, would be far preferable to a continuation of existing conditions, the one now proposed has been found excellent and practical after full trial in other states, and having been prepared away from New York conten- and controversies, it offers a basis for compromise alike to both factions and to neutrals.

to establish these propositions clearly and a brief history of this reorganization movement is necessary. From the very outset the magnitude of our task grew on us. Although in name medical societies—city, district, state and national—existed without number, and medical machinery and high-sounding official titles were provided sufficient for the civilized world, membership in most of them was small and little more than nominal, and, outside of a few states and localities, the profession was so torn with dissensions that it was in chronic disgrace in its own and in public estimation, and in a large measure robbed of its power, by legislation or otherwise, to help either itself or the public, for whose benefit it was supposed to exist. Into a profession already so overcrowded that there was less room and remuneration for the average physician than for clerks and skilled laborers, commercial medical colleges were annually turning loose thousands of new graduates, many poorly equipped for intelligent modern practice, and practically all of them without an hour's training in professional conduct, business methods, the importance of society membership, in which all should have been drilled with the care due to subjects to become of so much importance as soon as they come to serve the public and face the problem of earning an honorable livelihood.

Largely as a result of such lack of training, we found that of the 120,000 registered physicians in this country, only about 30,000—one in four—had ever been members of any kind of society, local, state or national. Most cities were little better organized than the country districts, a large submerged element being often found within an easy walk of imposing medical and post graduate schools, libraries and hospitals, who had long lost hope of advancement, looked on their profession only as a doubtful means of support, while those in the higher ranks wrangled and slandered each other and brought odium on all, and Eddyism and other forms of bald quackery took the cream of a patronage which a united, self-respecting and honored profession would have deserved and received.

It was soon found, however, that these conditions, deplorable alike to the profession and public, were not universal. In Alabama, for instance, under a model plan of organization and resulting united profession, with over 1,500 of the 1,700 physicians members of the county and state societies, medical opinion was sought for the guidance of law-makers, executives and courts, the profession was honored and independent, and quackery was unknown. Kentucky, striving for the same ends under less perfect methods, had had no itinerant or advertising doctor within her borders for ten years, and the profession was aspiring to its rightful place as a directing force in public affairs. In a dozen cities also, usually of the lesser rank in population, under similar influences, harmony, co-operation and measurable prosperity prevailed and was increasing.

Inquiry soon demonstrated that the personnel of the profession was much the same everywhere, and the difference in the conditions found were apparently entirely due to difference in methods of organization. After all proper allowance for personal equation in rulers, governments are liberal or despotic as determined by their organic laws, and probably quite as much as with a nation, the constitution and by-laws of a medical society will set the compass and shape the policy which will largely determine the future for both itself and its individual members.

Influenced by such belief and considerations, my committee began its work four years ago by grouping those provisions for state and local societies which had resulted in the most effective organizations, and with great care made our first draft of a constitution and by-laws for submission to, and discussion by, conferences of leading men in the various medical centers where there was a reasonable degree of harmony. Later, the improved draft was published in the medical press and in pamphlet form and given the widest possible publicity. As we were performing an important, unselfish and gratuitous public service for the common good, advice and frank criticism were cordially asked from all, and these came freely and helpfully, especially from the better organized states and cities.

With such assistance, and in the light of such criticism, keeping always in mind that the plan should be democratic and conform to our methods of civil government, with local self-government by the county societies as the central idea, a simple but comprehensive system was gradually evolved, almost ideal in its outline and possibilities, which, after full trial under the most diverse professional conditions, has proven entirely practical, being so flexible that it could be adapted to the Cook County Medical Society at Chicago, with 1,800 members, as easily as it could to sparsely settled counties in North Carolina or California, with 10 members. Under its operations in one year in Michigan the membership increased from 560 to 2,100; in Kentucky, from 390 to 1,600; in Tennessee, from 300 to over 1,000; in Missouri, from 400 to 1,500; in Arkansas, from 190 to 703, and in like proportion in every other state adopting it.

It is a thoroughly democratic and American plan, using those much-abused terms in their broadest and best sense. As has been said, the county society is made the broad foundation and source of authority for everything, as well as the portal of entry to both the state and national bodies. If a physician stands well enough at home to secure membership in his county society, he is eligible for membership and for any position of honor or trust in the state and national bodies, and if he loses membership at home, subject to the right of appeal, he loses privileges everywhere.

The house of delegates, the legislative and business body of the state society, like the general assembly of a state, is composed of representatives from the county and district societies, and such delegates are freed from political influence so far as possible by making them ineligible for any of the offices within their gift, and they are responsible alone to the constituencies electing them. As they are in session but two or three days, in order to make the transaction of any business possible, unlike senators and representatives, they sit as one body. This gives a body small enough for deliberative work, and yet gives county societies remote from the place of meeting, and all others, an equal and only an equal voice, in all business affairs if only the delegates are in attendance.

Carrying out the same principle of local self-government, this house of delegates, made up directly from county and district societies, elects from the general membership the delegates who, in turn, compose the legislative body of the American Medical Association. As in the house of delegates of state societies, this being a small body, with its members carefully selected and made ineligible for any other position, with the terms of half the members expiring each year so as always to have men of experience in it, and which can remain in session, if necessary, after the general meeting adjourns, it was hoped to provide a body in which the interest of the profession and of scientific medicine might be considered and promoted in the broadest way.

The question of coincident membership in county and state societies is one which should require little explanation in New York. It has given satisfaction in the association, and has, of course, been under the observation of the society people. You have also had ample opportunity to observe the results of it for years in the neighboring states of New Jersey and Connecticut, where it has been in operation for years. It has been long the practice in Alabama, with the result that about 90 per cent. of the profession are permanent members, as well as in Massachusetts, Pennsylvania and Indiana, and recently in a total of thirty-two states. It is only one feature of the work, but it is so important that any complete or systematic organization of the profession is impossible without it. Besides, the justice of it is beyond question. It would be as obviously unfair to permit one to join his county society and enjoy all the benefits of the state society arising from its legislative, educational and other expensive and responsible labors, without assisting in its support, as it would be to permit a man, if one could be found so foolish and selfish as to ask it, to become a citizen of Buffalo, Syracuse or Rochester and enjoy all the benefits and protection of the state government without becoming a citizen of New York.

It is true that in nearly every state where this plan of organization has been proposed, as was natural and to be expected, academic and purely theoretic objections have been made to some feature of it, usually to the council, the house of delegates or to coincident membership. Such objection has always been made in advance of a trial of them, and they have been confined almost entirely to states which have been practically without organization heretofore. Conditions in Iowa illustrate this point well. The county society at Dubuque, which has reorganized and applied for a charter within the last ten days, raised many such theoretical objections to the plan before they had tried it, while 88 counties in the same state, organized under it, and realizing its practical benefits, are loud in praise of the very provisions to which their worthy neighbor at first objected. It is a source of much encouragement that this has been the experience of over 1,500 counties which have reorganized.

It would be pleasant to comment on each provision of the plan in detail if space permitted. Suffice to say, that it was intended only as the foundation and framework for a broad and comprehensive system to be recommended for universal adoption; that nothing was included except for what appeared the best of reasons, and that it is susceptible to infinite elaboration and improvement in detail as the profession of any state or county develops under the catholic and co-operative spirit which it inculcates, and which is so much to be desired.

Attention is called to the fact also, that much contained in the by-laws, where a wide departure is made from the brevity and compactness of expression adhered to in the constitution, is suggestive and educational in character, much of which would not be necesssary if such an organization as is contemplated was already in existence. We thought it as important, under existing conditions of discord and demoralization, to furnish incentives to this work, to give practical and detailed information as to how it was to be done, and to put the reasons for it all within the easy reach of those whose duty it would be to discuss the subject and do the work, as to furnish the framework of which, as the result of years of devoted labor, they were to make a complete edifice occupied by a united and harmonious, or at least a decently co-operative and self-respecting profession. For many reasons, too, amendment to the plan is purposely made easy. If, after trial in any state, anything is found obsolete or impracticable, it can be easily eliminated or replaced by something better adapted to existing needs, by the house of delegates, subject to instructions from the county societies, at any regular meeting, after such an amendment has lain on the table for one day.

Unification in New York has been so long the dream and hope of its own profession, as well as that of the entire country, that now, when this seems about to be realized, it may be that a majority of you will consider mere methods and details of organization important only insofar as they are likely to hasten or delay the union. In part, this view of the matter is both natural and correct. A cordial union under a defective plan, which could be modified and improved to meet the needs of the joint body, when there would be unity of purpose and interest for the common good, would certainly be far better than to perpetuate the two bodies, even with model organizations for both, with the strife, discord and loss of public respect inseparable from such conditions anywhere.

Still, if it can be shown, as the writer believes will appear on the most critical investigation of what is now proposed, that it furnishes ready to your hands a plan of organization to which you may build and add with confidence in the results, and which will at the same time hasten unification by furnishing a basis of compromise between factions so long divided that suspicion and jealousy have become so much mental habits that neither will be willing to accept what the other proposes, it should, and I am sure will, receive respectful consideration at your hands.

In the era of good feeling and enthusiasm which must follow unification, under such a broad, liberal and comprehensive plan, which would give an equal voice and power to the individual physician in every county, organization should and would make rapid strides, and the possibilities opened up to your profession, and then to your people, would be almost beyond conception. In the face of such possibilities, standing on the threshold of such accomplishments, petty prejudices and personal interests appear so insignificant that they should find no place in large minds.

Then, as New York would be in perfect alignment with her sister states, with proper education and effort, everything desirable would, in time, be brought within reach of the united profession of the entire Union. The complex and difficult problems before the profession of this country incident to our unprecedented advance in population and civilization, and which must be solved by it, if they are to be solved, will tax its highest intelligence and energies at its best. Provision can then be made for continuous scientific research, and for systematic collective investigation into the causes and prevention of disease on the large, generous lines demanded by the vast interests involved. The vexed problem of medical education can then be taken up with confidence and justly and wisely solved. Reciprocity in licensure and membership between states can then be discussed from the standpoint of the common good and settled on some equitable basis. Constructive statesmanship can be substituted for the narrow, time-serving political methods of the present in municipal, state and national public-health affairs, and our great profession—great even now in spite of its divisions—united, elevated and ennobled, would come to occupy its rightful place as one of the greatest of modern forces for the guidance and protection of our people. It would be an honor, even to New York, to lead in a reform promising such results, and to set an example in complete organization, which less favored and weaker states would imitate with both pride and profit. First of all, leading to all, and above all, in the words of your victorious commander, greater in magnanimity even than in war, "Let us have peace."

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## THE HISTORY AND ETIOLOGY OF "MIGRAINE."

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The word *migraine* (*megrim, the megrims,* etc.) is the vulgarization of a misnaming and meaningless term for a malobserved and trivial symptom, which in the majority of cases is not present, of a widely prevalent and ingravescent disease, with indescribable symptoms, which wrecks life and morbidizes the mind, the etiology and pathology of which are unknown, the location or organs affected being also unknown, and of which no treatment avails.

The term is a corruption of the Greek 'Ημικρανία and the Latin, *Hemicranion* or *Hemicrania,* taken to mean a pain in one side of the head. The word is, of course, an absurdity, because it denotes not pain, but only half-headedness, the idea of pain having no part in the construction of the word. One may perhaps speculate in vain as to the reasons of the Greeks for making half-headedness a synonym of pain in or on one side of the head. The fact itself seems to imply that when the word was born there must have been many patients who were so greatly tormented with this unilateral pain of the head that it was at once understood when such a patient was spoken of as "half-header"—"the man (or, more probably, woman) with half a head." The term was used in this way by Hippocrates, Galen and other Greek physicians with the same indiscrimination to express all headache, until Alexander Trallianus in the sixth century recognized that there were two forms of headache, and he urged that hemicrania or migraine was that which resulted from gastric disease or suffering.

In the seventeenth century the kinds of headache began to multiply, and they have continued to do so until now they are almost innumerable. The more coolheaded, at least not half-headed, English of one or two hundred years ago, began to recognize that "half-head" did not imply pain, and that pains in the head were by no means one-sided. Migraine, they saw, was not etymologically a pain, and the pain that existed in patients was not migrainous. Thence began the use of the good old English word *head-ach.* In his excellent dictionary published in 1809, Parr refers migraine or megrim to *cephalalgia,* and treats of the whole subject of headache, migrainous or not, under this heading. It was a sensible thing to do. It followed that the headache accompanied by gastric disorder, nausea, vomiting, indigestion, etc., naturally and rightly received the name *sickhead-ach,* or as we now say, *sickheadache.* With so-called "scientific" medicine (which in so far as pertains to this disease is absolutely as unscientific as was that of classic or medieval times), there was a relapse to the absurd term migraine, and under that caption are now published hundreds of crudite monographs that throw little or no light of knowledge on the ludicrous tangle. The word is now applied to a symptom-complex of infinite variability to indicate a very common and violent disease, the cause of which is wholly unknown, and for which there is no cure.

The old term, "sun-pain," applied to the disease is of illuminative significance. It was so called because it lasted, in the olden times when the theory was formed, only so long as the sun shone, and ceased with darkness. Now, in those times all reading and writing was done by daylight; at night, the absence of artificial lights compelled cessation of literary, sewing, and handcraft occupations. With this ocular rest, as always, came immediate relief of the ocular reflexes called "head-ach" and "megrim."

*In Literature and in History,* the disease itself has played a tremendous rôle, and it is not surprising that writers should have busied themselves with it. To attempt any culling or epitome of the literary allusions to headache would fill volumes. There is hardly an observant author who does not give intimations of the fact that must have been either before his eyes, or in them, or behind them, almost every day in his life. For as a source of pain and suffering, as a molder or destroyer of literature, as well as of lives, headache has been, I doubt not, one of the greatest producers of evil. In any city, village or community of the civilized world, if one will ask any woman, and every second man, he will be told that all know of relatives, friends, and even whole families, constantly suffering from headache, sickheadache and other eyestrain affections. Willis, an ancient writer, already said of this affection:

> There is none but is sometimes obnoxious, so that it has become a proverb as a sign of a most rare and admirable thing "that his head did never ake."

Other diseases, the plagues, poxes and punishments of evil and unsanitary living, came and went, but headache always remained with men and women, at least since civilization came to them.

An old English chronicler speaks of one:

> "A fervent mygreyn was in the right syde of hurr hedde."

Other references are:

> "Heyera hermetis purgeth the hemicran."—*Lloyd, Treas. Health,* 1585.
>
> "Oyle of fystikes healeth the hemicrane and watchynges."—*Do.*
>
> "Here hence springs the head-ache . . . which last we call the Hemicrany or Megrim, possessing but the one side of the head."—*Vaughan,* 1600.
>
> "The bones help the Hemicrania."—Lovell, 1661.
>
> "Subject to the sickness called Megrim or Hemicrain."—*Blount,* 1656.

The opinion of the writer in that monument of French erudition—Larousse's *Grand Dictionnaire Universel*—is plainly implied in the opening sentence of the article on *Migraine:* "The disease which physicians have baptised with the fine name of Hemicrania, without, for all that, feeling themselves under any obligation to cure it." "The shame of medicine," the writer calls it, later.

Méry says that Migraine is "a wonderful invention which will last until there are no more women."

Samuel Johnson quotes Bacon's Natural History, which says that "in every megrim or vertigo there is an obtenebration joined with a semblance of turning around." Both of these chief symptoms, it should be noted, are visual.

Pope wrote:

> There, screened in shades from day's detested glare,
> Spleen sighs forever on her pensive bed,
> Pain at her side and megrim at her head.

"The sole thing that brings me relief," still say many patients, "is absolute darkness."

In his "Physiology of Marriage," the Frenchman, Balzac, best fitted to give expression to the national opinion, gives a vivid picture of the disease as illustrated in upper-class families. It is always the wife who is afflicted. He pictures it as the queen of diseases, the most pleasant and at the same time the most terrible weapon which a woman can use against the husband. "I have the migraine," ends all controversy. But while ridiculing the disease as a makeshift of these cunning ones to deceive, Balzac gives an admirable description of the attack, and lets us see that the assumed disease is certainly an imitation of the real, and perhaps the idea of trickery was read into the real experience by the husbands and the romancer. Her book, he says of the patient, is at her feet; the least noise is unbearable; her voice is weak; she silences her husband and all his reproaches with a look. The doctor is called in; he advises exercise, and madam recovers. But she gets her way, good or bad, and beats all plots or plans by means of her migraine—the protector of illicit loves and the confounder of virtuous husbands.

For a thousand years in Greece not even the fathers of medicine noticed that the aches of the head were not unilateral. Alexander of Tralles made one distinction, namely, that the stomach was implicated in some headaches. Even this was forgotten, and for another thousand years there was no observation that resulted in distinctions. Then began a luxury of growth in nomenclature which has increased, until to-day all that one can say is that "there are as many kinds of migraine as there are heads that suffer." Even a few years ago Nietzsche had to protest to his scientific physicians that his disease was not migraine, because it was not on one side of his head. The spell or hypnotism of a badly-formed, meaningless word thus continues to-day to dominate observation and facts. And all this despite the truth that so many physicians (being students)—Lepois, Airy, Parry, Dubois Reymond, Travers, Fothergill, etc.—were sufferers from the disease.

Anthropologists have pretty nearly come to an agreement that prehistoric and savage trephining, so general in all races and times, was probably done for the purpose of relieving headache. The location of the hole made in the savage skull, in order to let out the evil spirit, does not warrant the conclusion that the headache was particularly on one side. It may have been so, but the arrow-makers, basket-weavers, etc., in whom it probably chiefly occurred, were not so discriminating as to point it out to the medicine men. Both probably thought of the living cranium as a more or less hollow organ, such as they found it in their ancient dead. The Greeks, and after them the Romans, and then the medieval nations, thought of the headache as a hemicranous ache, although many patients, and most of them in the crisis of the attack, found the ache as much on one side as the other.

*Classification and Etiology.*—Sauvages gives ten forms: ocular, dental, sinus, coryzal, hemorrhoidal, hysteric, purulent, insectal, nephralgic and lunatic. The great French Dictionary of Medicine finds it best to limit the varieties to two chief classes, the simple and the constitutional. Many authors recognize, 1, the idiopathic; 2, the sympathetic (disease of the viscera); 3, the symptomatic, i. e., from lesions of the encephalon or its envelopes. In Parr's Dictionary (1809), cephalalgia is divided into:

1. The mild, i. e., cephalalgia.
2. The inveterate, or cephalæa.
3. The one-sided—hemicrania, migraine, etc.
4. In one temple, crotaphos.
5. In the crown, i. e., clavus hystericus.

But he says it may be symptomatic and idiopathic, adding that it is often impossible to ascertain the disease of which it is a symptom, and that in some it is unconnected with any other complaint.

The cause of migraine, if known, would dictate the classification. The fruitlessness and self-contradictions reached by all the classifications that have been devised shows only what is frankly confessed, that none has had the hint of a suspicion of the true etiology. The primitive trephiners of prehistoric and present-day savage times were as sure of their pathology as of their therapeutics. Aretæus described migraine under the name of "heterocrania," and with considerable accuracy—better, in fact, than Galen. Aurelianus finds that women are more subject to it than men. Serapion thought the disease sprang from the digestive organs.

Alexander Trallianus continued the great blunder that has reigned supreme almost to our own day, and still rules many minds, that in the symptom complex we now call sickheadache the stomach is primarily at fault.

Charles Lepois, 1618, taught that migraine was caused by fermentation of the biliary matter which distended the membranes of the brain. Thus began the fashion of using those sacred mumbo-jumbo words, "bile," "biliousness," "bilious headache," "liver," etc., which have been of such potent-impotent service in the literary and social history of the last 200 years.

Wepfer ascribed the disease to stagnation of the exudated blood serum in one half of the head. Theories as metaphysical ruled the minds of Hoffman, Willis, Fordyce and others, who credited the disease to animal spirits. Tissot, in 1813, returned to the gastric theory. De villiers and Deschamps attribute it to disease of the frontal sinus. No one could for long get far away from the ocular idea or location. Schönlein called the disease cephalic hysteria; its seat in the nerves of the forehead and temple. Romberg called it cerebral neuralgia. Chaussier and Pinel charged the disease to neuritis of the seventh and especially the fifth nerve. Professor Brouillard thought the third nerve was the sinner. Auzias-Turenne thought compression of the trigeminus in the cavernous sinus was the cause. Calmeil said that sickheadache was a double lesion; the flow of blood to the central and to the peripheral system. Piorry held it to be due to an ascending neuralgia, starting from the nerves of the iris and pathologically reflected from the sensitive centers to other organs. Charcot insists on an intimate relation with rheumatism, gout, hemorrhoids and gravel. Of 30 women with nodular joint affections, 12 had previously had intense migraine.

The number of primary or secondary causes of the disease that have been noted by physicians' reports is astonishing. In Dubois Reymond's own case the attacks usually followed fasting or lack of food, and many have alluded to this. On the other hand, scarcely less frequently it is caused by the presence of food. Fothergill, with a hundred others, is sure that diet, "the kind or quantity, or both," is at the root of the mischief. He says that butter is the greatest cause, as "nothing more speedily and effectually gives the sickheadache, and sometimes within a few hours." The next most important articles are "melted butter, fat meats, spices, meat pies, hot buttered toast and malt liquors." English authors generally incline to the "bilious," gastric or intestinal cause of the disease. Fothergill's philosophy of the disease was that an acid or bitter bile in the empty stomach or duodenum, favored by certain foods, was the cause.

If fasting will not produce the disease, overeating will do it. Hunger and satiety are equally effective. Dubois Reymond, again, says his attacks were generally preceded by constipation. Wine, even sacramental wine, the least fragment of burnt pastry, are the great causes testified to by a physician as producing the attacks in himself for thirty years. The rôle of "biliousness," the "bile," "liver," "stomach," "dyspepsia," "disorder of the bowels," etc., is a big one in the great tragicomedy during the last several hundred years. Dr. Parry's own attacks were caused by the state of the stomach, "although they occurred without any feeling of indisposition at the time, either there or elsewhere. They generally *went off* with a movement in the stomach producing eructation." "Anything disagreeing with the stomach"—a hearty meal, meats, lack of meats, and every possible article of diet or lack of it—these *ad infinitum* have filled the accounts of patients and physicians. All of which is, of course, *post hoc* logic.

Perhaps next in emphasis and number of mentions after the digestional cause is the sexual. One physician has devoted a whole treatise to "catamenial megrim." Liveing at once stumbles on the fact that men have monthly attacks as well as women, but that does not deter him nor others from the hypnotism of coincidental and succedant disease viewed as cause. Puberty is a great disposer, but why it is so none can say, and the exceptions to the rule are far more numerous than the hits. The greatest reliance is placed on the supposed fact that the menopause brings cessation of migraine. Here, again, the inaccurate observation and domination of theory is noticed, because in the majority of cases the attacks increase in severity for ten or more years after the menopause, and in men the menopausal factor is hardly present and they also suffer up to about 60.

*Cephalalgia Spasmodica,* the Sick Headache, Parr describes in a separate paragraph, but his first sentence is, that he considers it separately only out of respect to Fothergill, for "this afflictive malady scarcely differs from the symptomatic head-ach, arising from the stomach."

Loud noises, foul air, smoke, drums, military music, review-days, etc., also, it seems determine attacks. But especially smelling, strong odors, particularly of drugs (turpentine, musk, valerian), even roses and flowers, are also effective. The smell of a postmortem room, of a hospital ward, always caused migraine in a great hospital physician, "one of the most brilliant writers," etc. He missed it but once, and that was when the wards had been watered with chlorinated water!

Meteorology is the great comfort of certain physicians in explaining migraine. In 1903 a great one has sought refuge in it when frightened by the ocular theory. Dr. LePois was attacked "on every change of the weather." Tissot and Labarraque are sure about atmospheric states, changes of season, or of weather. A large number of Symonds' patients blamed their attacks to weather, or no weather, to thunderstorms, etc. Dr. Airy's attacks were favored by windy weather—several of his family synchronously, and unknown to each other. Direction of the wind is another cause, frequent in Libert's cases. The southwesterly wind is effective at Zurich. Wagner, Nietzsche and others note the power of Föhn to cause the disease.

Mental excitement, emotion, vexation, distress, fright, passion, sexual emotion, etc., have been noted by Tissot, Symonds and many others as influential causes. "Nursing the mother through a long illness," "prolonged lactation," "poverty," "marriage ten years previously," frequent child-bearing, etc., are mentioned. On the other hand, freedom from the habitual attacks is noted during pregnancy.

Violent exertion, gymnastics, and just as frequently, fatigue, are charged with producing the disease. Lifting heavy weights, sudden effort, straining, running, a hard day's washing, skating, traveling, riding, are among other causes of the disease.

"Prolonged discharges," "prolonged indigestion," "disordered bowels," "impaired general health," "debility," "leucorrhea," are recorded observations. The cart is before the horse often, and often there is no horse or no cart.

"The state of sleep, or rather, perhaps, of waking," also causes the attacks, according to Liveing. One wonders if the neither-waking-or-sleeping state would not also do the same. To wake up from sleep seems to have been a frequent cause, and to be awakened before time. Prolonged watching, resistance to sleep, etc., are also listed.

The thousand causes that have been given remind one of the symptoms of the homeopathists in the "proving" of their drugs. However foolish scientifically they are also pathetic and confessions of impotence in the face of a great mystery.

In Symonds' 90 cases the causes are thus classified:

| | |
|---|---|
| Emotional disturbance.. | 53 |
| Indiscretions of diet... | 19 |
| Denial of diet as cause | 62 |
| Action of the bowels.. | 12 |
| Denial of this cause.. | 54 |
| Fatigue | 32 |
| Catamenia (out of 76) | 35 |
| Atmospheric states | 48 |
| Thunder | 25 |

Analysis of these figures is both edifying and mystifying and amusing.

Dubois Reymond held to the theory of a tetanization of the cervical sympathetic, and the great modern French *Dictionnaire des Sciences Médicales* agrees that this is the best theory.

The bibliography of the subject would occupy a volume. The Index Catalogue and the Monographs of Liveing, Spitzer, Cornu and Mobius may be consulted for references. All text-books on general medicine and nervous diseases, of course, add to the literature, without adding any clarification of the subject.

Hooper's Medical Dictionary says migraine "arises from a state of the stomach," and Parr's Dictionary traces causes to bony fragments, exostoses, tumors, worms in the brain, etc. Parr finally breaks down, however, and in despair says: "Authors have endeavored to distinguish by the particular kinds of pain, which of these causes may have produced it, but language fails in describing the different feelings and their variety." One of the reasons for the despair of Parr and of all others is that the whole life of the patient was not observed. The clinic was of the day, not biographic. This disease is one of the whole life.

Airy and Förster think cerebral anemia is the cause. Sarda says: "How many dyspeptics have hemicrania! How many migrainics have no dyspepsia?" Liveing's view is that the disease is of the nature of a nerve storm from the sensory centers, and is related to epilepsy.

As for definitions, one modern one may serve for many: "A complex neuralgia of the nervous centers, of the nerves of sensation and of vasomotor nerves, characterized by direct or reflex modifications of the intellect, of sensibility, and of local circulation, also of general circulation and of great functions." Almost all authors emphasize the rôle of "heredity"—"the unknown god ignorantly worshipped." Osler's summary is, "the nature of the disease is unknown."

In a general way all theories may be grouped into four large classes:

1. The cause is central. The authors upholding this view are Liveing, Romberg, Anstie, Leubuscher, Jackson, Gowers, Möbius and others.
2. The vasomotor system is at fault. The advocating authors, according to Spitzer, are Dubois Reymond, Möllendorf, Eulenberg, Mauthner, Siegrist, Oppenheim, Whytt, Latham, Lauder-Brunton, Hammond, Wilks, Pemberton, Peake, Handford, Charcot, Galezowski, Féré, Thomayer, Lyon, Antonelli, d'Astros, etc.
3. Toxins are the etiologic factors—held by Galen, Serapion, Brunton, Hecker, Haig, Navarre, Wallace, Claus, Rachford, Steckel, Strümpell, etc.
4. Reflexes are the causes, supported by Tissot, Hack, Schäffer, Schech, Sommerbrodt, Zien, Dobisch, Martin, Seguin, Greenwood, Terrien, etc.

Each one of these may be and are combined with either one, two or three of the others, until only the most patient of experts can distinguish the divisional distinctions. To all others confusion soon becomes ever worse confounded with each hour's study. When one has become migrainous with attempts even to understand the theories he will agree with Osler and others that the nature of the disease is unknown. *"Autant de tetes, autant de migraines!"*

*Prodromal Symptoms.*—The typical attack is said to be usually ushered in by pain over, in, behind or above one eye, or in one temple, or by vague symptoms of gastric malaise, anorexia, lassitude, sleeplessness, or, conversely, on reading or writing, with sleepiness. The prodromes that have been noted are many. With or without the pain in the forehead, eyes or temple (or in all three), scotoma scintillans may precede the attack, and a number of authors and many practitioners still think this is a necessary part or prodrome of "true migraine." (This symptom has itself been called "ophthalmic migraine.") But if this is so, we can then have migraine without unilateralism, without pain and without implication of the digestive organs, for I am sure that close observation of many clinical cases will demstrate that the majority of attacks of sickheadache are not preceded by scotoma scintillans; and that in fully a half of cases of scotoma this symptom is followed by no headache or other symptom whatever.

I have scrutinized the facts in not less than a thousand private cases of typical sickheadache, and myself and assistant are sure that at least half do not have the prodrome. On the other hand, questioning all patients who have had this symptom, shows that the same proportion do not have any headache following. Until I secured a perfect correction of my own ametropia I had frequent attacks of scotoma scintillans—numbering several hundred in twenty-five years—and I never had a headache in my life. Hippus and hemianopsia are also other ocular prodromes.

*"The Typical Attack."*—The most common, and especially the initial symptom, is that supposed to be expressed by the name—a pain in one side of the head. This pain is almost always described as over one eye, in it, or behind it, or in one temple. One after another there are or may be additional symptoms until the whole encephalon becomes unendurably painful and sensitive, and nausea and indescribable wretchedness follows, violent emesis then ensues, lasting for a few minutes, or for days; there is then a sudden clearing, and, in otherwise healthy and strong natures, a quick return to health. The recovery may be slower in the weak or otherwise unhealthy. Despite the fact that the digestive disorder is a late or last and infrequent symptom of the disease the gastric origin is still the favorite theory today. But it must not be forgotten that the testimony of all writers agrees with that of personal clinical experience: the number of atypical cases is a hundred times greater than that of the so-called typical. The so-called typical disease is the severe one, that in which there will be at least the two chief symptoms of headache and nausea. Hence the applicability of the term sickheadache to this condition. But, again, the vast majority of cases of what is evidently the same disease, do not reach the extreme of nausea or even of vomiting.

One may with truth say that there is no typical disease. The vast majority of cases have no aura. This pathologic house has no portico or front door. Almost as many cases have the aura only, without other symptoms. The house, then, consists solely of front door. Parkman and Spencer and others avoided what the writers would call migraine, by most careful and deft avoidance of the causes of it, and yet their disease was essentially the same as that of George Eliot and Nietzsche. Hemicrania is often not hemicrania, i. e., it is bilateral instead of unilateral. All pain in the head may be absent and the disease have the same cause as in headache cases. The digestional reflexes are in the great majority of cases entirely absent, or they may be of a hundred types. What shall, therefore, be said of a disease that has no true typical symptoms, which hardly ever has all of those called so, which usually has only one, which may consist solely of a prodrome, or without one of the usually recognized symptoms? *It is time that it were reborn, renamed, rechristened and reëducated.*

The recognition of the essential morbid condition is further rendered more difficult by the intermixture of an infinite variety of symptoms that often mask or complicate the clinical course, complaints and diagnosis beyond recognition. Thus has been completed the utter chaos which to-day characterizes the whole subject. There is no agreement among a multitude of theorists; there is the most ridiculous weedy growth of contradictions and inconsequence concerning etiology; and, of course, there is no therapeutics whatever. Migraine is the puzzle and the opprobrium of medicine. The conclusion of the article in the greatest medical encyclopedia is: *Autaut de tetes autaut de migraines,* which, translated into scientific language means that the almost unique cause of migraine, astigmatism, etc., differs in each case; the exciting cause, occupation and use at near-range of the eyes, differs no less; the soil, i. e., the nervous and digestive systems, into which this infinitely varying seed falls, are also never alike in two cases. How certain, therefore, must it be that the morbid results are so lawless and seemingly illogical.

The terminal stages of the attacks also illustrate the death-and-life struggle of the organism with the excruciating disease. The one, two, or three-day vomiting and retching described in the cases of Mrs. Carlyle, Nietzsche, etc., is suggestive. There is sometimes a flow of tears, sometimes abundant secretion of urine, a mucous flux from the nose, lavish sweating of the feet, hands, or half of the face; there may be nose-bleeding or even arterial hemorrhage.

A large clinical experience with migrainous patients shows that their headaches are of an apparently amazing variety of kinds, and seemingly, of causes. An examination of the literature also illustrates the same fact, each of these kinds by one or by others being called or described as migrainous. *The mere index or enumeration* of these kinds of headache would fill many pages. In the first place there is a long list of headaches plainly due to organic and systemic diseases, such as tumor and traumatism of the brain, meningitis, fevers, infectious diseases, etc. These are, of course, excluded. They are few in number compared to the nonsymptomatic and functional cases, but in many treatises they fill most if not all of the field of vision. Of the functional kinds one may likewise construct a huge list: the nervous sick, periodic, hereditary, constitutional, dietary, hemicranic, menstrual, ocular, nasal, dental, constipational, bilious, indigestional; those from intellectual overwork, physical exhaustion, worry, lack of food, from study, bad light, bad ventilation; from coryza, influenza, rheumatism, uterine disease, pregnancy, hysteria, anemia, diseases of the spinal cord, of syphilis, and so on, and so on. And, finally, then, is a very large class that can not be ascribed even to the vaguest and most far-off cause. Any one, two or dozen of the kinds may be mixed in all proportions in any one case, and only omniscience—not possessed at least by young practitioners—could discern the explanation and dissolve the mystery.

Lastly, the location, character and degree of the ache in, about, on and below the head, in spots, in halves, or of the whole, make confusion worse confounded.

(*To be continued.*)

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## Clinical Report.

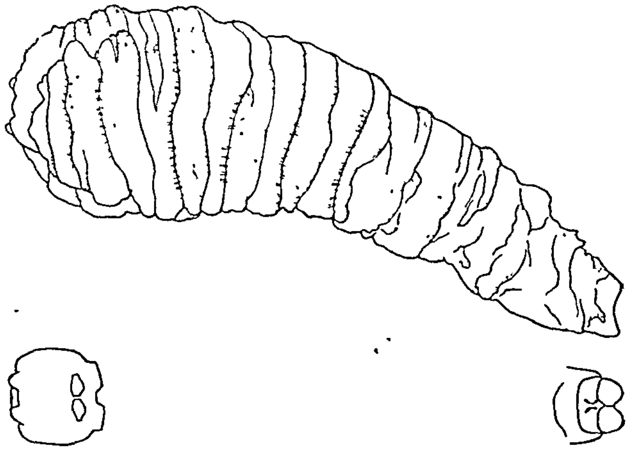
### A PARASITIC MAGGOT,

### GASTROPHILUS EPILEPSALIS (?), IN THE SKIN OF *AN INFANT.*

F. L. WASHBURN, A.M.
MINNESOTA STATE ENTOMOLOGIST.
ST. ANTHONY PARK, MINN.

In September last Dr. Burnside Foster, St. Paul, Minn., sent me for identification some maggots in alcohol which had been taken from a patient, August 15, at Superior, Wis. He stated that the patient was a female infant three weeks of age, born prematurely at the seventh month and bottle fed from birth. One of these maggots came from a pustule on the back of the neck, one from the palm of the hand, one from beneath the jaw and one from between the great and second toes of the right foot. He further stated that the infant had slept in its carriage out of doors for many hours nearly every day since its birth.

I at first thought that these dipterous maggots belonged to the old genus *Lucilia,* but having no specimens in alcohol with which to compare them, I sent them to a specialist on diptera at Washington, D. C., without data. This specialist declared the specimens to be *Gastrophilus epilepsalis* (French), French names, and describes this species in the *Canadian Entomologist*, vol. 32. It was named from a larva, great quantities of which were found in the evacuations of a child subject to periodic epileptic spasms. As these attacks ceased for a time after the use of purging medicines by means of which large numbers of the maggots were voided, Professor French in his article appears to have assumed curiously enough that the spasms were caused by the "reproduction of the larvæ in the intestines." This statement is absurd, because with a few rare and well-identified exceptions reproduction in insects is confined to the adult or perfect form. He called these parasites *G. epilepsalis* because the patient had all the symptoms of epilepsy, the patient having globus hystericus with the spasms and the other usual symptoms, including mental aberration, accompanying the attacks. This intestinal parasite evidently has no connection whatever with epilepsy, and is wrongly named. The curious part of the affair, as far as the writer is concerned, is the fact that the Washington specialist declared that Dr. Foster's maggots, which were cutaneous, were identical with Professor French's type, an intestinal parasite. Two prominent entomologists take exception to his identification.



Maggot obtained from infant by Dr. Burnside Foster, enlarged 17 times.

It is a pity no imagoes were reared from these Wisconsin larvæ, for that would have settled the identification. Certainly much remains to be found out about this variety.

In this connection Prof. John B. Smith, state entomologist of New Jersey, cites a curious case of a *Cuterebra* larva, belonging to the *Oestridæ*, being taken from the neck of a woman, the supposition being at first entertained by her physician as well as by herself that she was suffering from a boil, and not until the treatment was changed and the "boil" opened was it discovered that the trouble was caused by a dipterous parasite. *Cuterebra* is a bot fly, affecting normally rabbits and squirrels. The genus *Gastrophilus* belongs to the family of flies known as *Oestridæ*, types of which are found in the bot fly of the horse and in the so-called ox warble which renders the backs of cattle sore and seriously impairs the value of the hides. Both of these flies lay their eggs on the hairs, which eggs are later licked off. thus finding their way into the alimentary canal.

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## New Instrument.

### A SERVICEABLE FORM OF CAPILLARY ELECTROMETER.

C. C. GUTHRIE, S.B., M.D.

(From the Hull Physiological Laboratory, University of Chicago.) CHICAGO.

I have been using the capillary electrometer, figured below, for some time, and it has proved so satisfactory that I consider it worthy of a brief description. I ordinarily work with the capillary tube horizontal and the description will be of it in that position.

Figure 1 shows the appearance of the capillary and cup when viewed from above. A is a glass tube drawn into a capillary and fused into the acid cup B at X. The superior and inferior surfaces of the cup B are flat and parallel. Each surface is dilated into a small reservoir C and E (see Fig. 2). C has a hole in the top which is sealed with acid-proof wax after the cup is filled with acid, care being taken that a large air-bubble remains in the reservoir. E serves as a reservoir for the overflow mercury from the capillary tube and has a platinum wire, G, fused into the bottom. The capillary is in contact with the internal surface, and in the median line of the top wall of the acid cup. F is a platinum wire fused into the tube, A. The tube and cup are mounted on a fiber base, as shown in Figures 3 and 4, the platinum wires, F and G, being connected with wires running to the short-circuiting key, O, and binding posts, P. and P′. Tube A (Fig. 3) is connected by means of a piece of antimony rubber tubing with the glass pressure reservoir, K, which is provided with a mercury trap and is fastened to the post, J, by means of an adjustable clip, L. The post is made with a hinge joint which permits the use of the instrument with the capillary in either a horizontal or perpendicular position. The post is graduated in mm. to show the mercury pressure. In Figure 4 a modification of the pressure arrangement is shown, with a longer tube, A, bent at a right angle so that the end, which is provided with a mercury trap, is brought into contact with the air-pressure reservoir, Q, to which it is firmly cemented. The pressure in this form is regulated by the screw, N. The hole, I, is closed by cementing a sheet of glass across the bottom flush with the inferior surface of the base (the object of this being to protect the microscope in case the acid cup should be accidentally broken). The instrument is fastened to the stage of an ordinary microscope by clips.

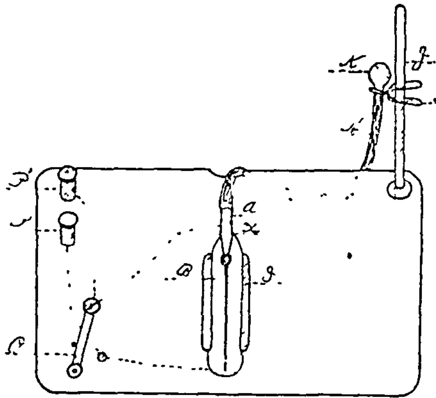

Fig 3

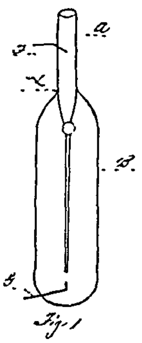

Fig 1

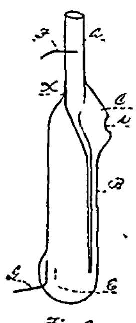

Fig 2

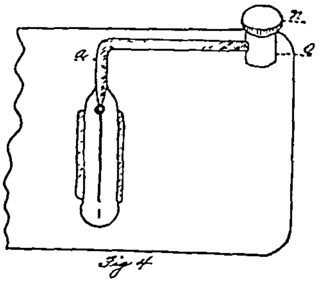

Fig 4

This form is as sensitive as the ordinary types. It is always ready for use; it may be turned in any position without spilling acid or mercury; and it is not easily broken or got out of order.

My thanks are due Dr. E. P. Lyon for valuable suggestions; and Mr. F. H. Rieske for his assistance in working out the mechanical details of the base, and assembling the parts.

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SATURDAY, JANUARY 16, 1904.

## A CRYSTALLINE PRODUCT OF VENOM.

In a former issue[1] we noted editorially certain recent advances in the study of venoms, and emphasized the importance of the new facts in relation to the general subject of immunity. The two most important points mentioned were that venom alone is not poisonous but becomes so in the body in the presence of serum complement (Flexner and Noguchi); and that, moreover, a known chemical substance, lecithin, is capable of assuming the complementing or activating rôle for the venom.

Kyes[2] has followed up the latter discovery with another which may be of far-reaching importance in studies of toxins and other substances concerned in immunity. Having a known chemical substance in the form of lecithin which may act as complement, its relation to the active substance in the venom became an important object of investigation. It may first be recalled that Kyes discovered the existence of an endocomplement in the red blood cells, which was able to unite with the venom to cause the solution of the erythrocytes. This endocomplement turned out to be without doubt the lecithin which is normally bound to the stroma of the corpuscles. Inasmuch as the blood of all animals was not hemolyzed by venom when the former was freed from serum it seemed probable that the lecithin in such cases was more firmly bound to the corpuscles than in the bloods which were easily hemolyzed under these conditions. If lecithin, in complementing, acts as serum complement usually does it would combine with the venom intermediary body only after the latter had united with the corpuscles. However, under certain conditions even serum complement may unite with the intermediary bodies without the medium of a cell. This phenomenon has been termed deviation (Ablenkung) of the complement—the phenomenon of Neisser and Wechsberg. The most important feature of Kyes' latest work is that he has been able to bring about just such a union of the activating lecithin and the venom amboceptor (as the active substance would be called according to Ehrlich's nomenclature) and to obtain this new body in the form of a pulverulent precipitate. A 20 per cent. solution of lecithin in chloroform is made, and over this is placed 40 c.c. of a 1 per cent. solution of dried venom in 0.85 per cent. sodium chlorid solution. This is put into a shaking apparatus for two hours and then centrifugalized. The shaking produces intimate contact of the chloroform soluble lecithin with the water soluble venom and during the process the union of lecithin and venom has occurred, the new product remaining in solution in the chloroform. From the chloroform it is precipitated by the addition of five volumes of pure ether. The precipitate is washed repeatedly in ether and finally separated by centrifugation and dried, or it may be kept indefinitely under ether. The product was found to contain quantitatively the toxic principle of the original venom. It had, moreover, a wider range of activity than the venom, inasmuch as the washed blood of certain animals which was resistant to crude venom was now dissolved with the same readiness as the more susceptible bloods by the precipitated product—cobra-lecithid. The explanation lies in this, that the precipitate carries with it its own complementing substance, i. e., the lecithin portion of the compound. Interest also attaches to another point. If the cobra-lecithid is dissolved in water, there separates in a short time a new precipitate having a crystalline form—a "secondary lecithid" possessing the same hemolytic power as the "primary lecithid."

It will be remembered that in addition to the hemolyzing substance venom also contains a neurotoxic element. Myers, in 1900, demonstrated the difference in cellular affinities of the two active principles. Kyes accomplished the separation of the two, incidental to the precipitation of the primary lecithid. The neurotoxin remained in the salt solution while the hemolytic amboceptors were taken up in the chloroform-lecithin solution. Of the various results obtained with this substance, the one of most importance is that immunization with the crystalline product yields a specific antibody for the hemolytic agent of the venom as well as for the cobra-lecithid.

It is difficult to appreciate the full significance of having this, first, pure, crystalline compound of a toxin. Other toxins have been brought down mechanically with the albuminous bodies of a medium by the use of ammonium sulphate and other precipitating agents, but this is the nearest approach so far to the chemical isolation of one of those substances so important to life and general economy. Scientists have had to content themselves with observing the remarkable effects of toxins and immune serums, and with theorizing as to their probable albuminoid nature and their mode of action. They have never been able to see and analyze chemically the pure substance. It is reasonable to suppose that the work of Kyes may prove a point of departure for investigations of the greatest importance. The possibility of being able to obtain certain bodies in pure concentrated form may mean more than we can at present appreciate. With such substances it may be possible to obtain a heretofore unheard-of degree of immunity, and yield us more powerful antiserums. Perhaps various other toxins depend for their activity on substances contained in the cells themselves. It does not follow that it would be lecithin in all cases, so all toxins may never be reduced to lecithids. There is, of course, abundant room for theorizing and an unlimited field for investigations of a like nature.

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[1] The Journal, April 25, 1903, p. 1148.

[2] Berl. klin. Wochensch., 1903, Nos. 42 and 43.

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## THE RESULTS AND PROSPECTS OF TENEMENT-HOUSE REFORM ABROAD.

The most striking victories of sanitary reform have been those won in and over the slums of the great English and Continental cities, and the call to arms has usually come through the medical profession, for although these reeking nests of unwashed humanity have shocked the moral sense of the public as nurseries of crime and physical degeneracy, yet their most powerful appeal for vigorous action has ever been through becoming the starting point of some deadly epidemic. Disease is the revenge which the submerged tenth takes on the careless selfishness of the upper social strata. As long ago as 1838 a serious outbreak of disease in London, beginning in the east end, inspired an extensive investigation into the conditions of life in certain districts, the report of which came like a revelation to the rest of the city. Nearly 1,500 families were found living in 2,200 rooms and with only 2,500 beds among them, 923 of them having only one room and 625 only one bed. What this means as to the possibilities for health and decency needs no explanation.

For many years a vigorous campaign has been waged against the London slum. Some of the worst, like the notorious Seven Dials, have been practically wiped out of existence by driving broad streets and avenues through them, and thus letting air, sunlight and a better class of buildings penetrate the whole neighborhood. In others, like the Boundary Street area in Bethnal Green, the old buildings were torn down block by block and new model tenements erected in their place. The last of these buildings were dedicated by the Prince of Wales in 1900, and the whole series form a unique tenement village, covering thirteen acres, and with accommodations for 6,000 people, ingeniously grouped around parks, playgrounds and public baths. The death rate of the old district was 26 per 1,000; that of the new village does not exceed 16.

The problem is, however, in some ways simpler in London than in New York, since the slum buildings are mostly old tumble-down two-story or three-story or even cottage-built hovels, whose condemnation and destruction cost little in addition to the ground values, and as there has long been a provision in the building laws restricting the height of any building to two-thirds of the width of the street on which it faces, and strict regulations as to the cubic space per inhabitant, air and light are now enforced, and the evil is not perpetuating itself as in Manhattan Island. It is merely a question of destroying that which is already beginning to decay.

Certain it is that the London slum is rapidly becoming a *rara avis*, which must be sought for diligently if one would find it, and experienced workers go so far as to declare that even at its worst it is a "Garden of Eden" compared to the New York variety. The two forces which have mainly contributed to this desirable condition of affairs have been intelligent legislation as to light, air-space, plumbing, etc., and the discovery, through the erection of model buildings, as a work of philanthropy, especially the famous Peabody Fund, that this class of tenements could actually be made a paying investment. The original gift of this great philanthropist was $2,500,000, with which eighteen separate blocks of buildings were erected in various parts of the city, and such rents fixed as would secure a return of 3 per cent. on the investment. This is returned to the fund, so that it is continuously renewing itself and new buildings are steadily being constructed. As an endless chain of beneficence, this donation is certainly unsurpassed in the annals of charity.

Other examples might be cited to show that the medical profession, as sanitary reformers, is entrenched in a perfectly impregnable position as to its right to say to a prospective builder, "You must conform to such and such requirements for health and safety," inasmuch as it has been abundantly shown that this can be done without depriving him of a legitimate profit on his investment. This is the line which has been followed by the Tenement House Commission in New York appointed by President Roosevelt when he was governor. From this point of view, all that is needed in the future is a firm stand, rigorous and intelligent, holding tenement-house builders and investors to a certain standard of lighting, space and ventilation.

Of course, there will be a furious outcry from the unscrupulous class of builders and investors—and they are exceedingly numerous, if not a majority—who are determined to get every inch of space and every dollar of rent that their building can be made to yield; but when the public opinion once knows that the insistence by the city on these sanitary requirements is merely a question of cutting down profits of 15, 20 and even 30 per cent. per annum to the more reasonable 6, 7 or 10 per cent., it will stand no trifling with such serious conditions and will crystallize into a sentiment which even city councils must respect.

The other factor which is operating so powerfully in the solution of this problem, is that of rapid and cheap transportation. Steam made an enormous improvement and electricity has increased it 100 per cent., and is apparently not much more than at the threshold of its achievements in this regard.

We as reformers may, we believe, look forward confidently to a time when no more than a certain degree of density per acre of population will be tolerated in any of our large cities. While the skyscraper continues to flourish apace, the central parts of our cities will become more and more exclusively devoted to business purposes and their only inhabitants after business hours will be the few janitors, caretakers and watchmen, with their families, required to protect from fire and loss. Indeed, the London County Council has already begun to recognize this principle, and to discourage the building of even model tenements for laboring men within the more congested districts. In their place it is now carrying out a broad and far-seeing scheme of suburban colonization, building instead of model tenement blocks with their hundred rooms to the acre, acres of model cottages out in selected suburbs, making at the same time special arrangements with the railway and electric companies for reduced rates of transportation for their tenants. We may, perhaps, even look forward to a Utopia in which the awful effects of overcrowding in city life will be confined entirely to men of adult age and during business hours only, and when women and children will escape them entirely—living out in beautiful model suburb homes. The gain in health, in happiness, in home life and in facilities for healthful and natural education for the children will be something enormous.

The same principle may of course be carried out in our American cities. Indeed, they are already being applied in a large majority of them, without any official interference on the part of the municipal authorities. In our American cities the classic jibe of Thackeray at Washington, "a city of magnificent distances," is one of their proudest boasts. In one of them, however, and that the largest—New York—the problem presents itself in an even more acute and difficult form than in London. Not only has it, as has already been mentioned, worse slums than any to be found in the world's metropolis, but from the peculiar geographic formation of Manhattan Island, the solution of the problem, by means of rapid, cheap and safe transportation into the surrounding suburbs, is peculiarly difficult. Now, however, that the proposal for the great Pennsylvania tunnel has been accepted, giving it direct communication with the mainland on one side and Long Island on the other, we may hope for the beginning of better days.

## THE SIGNIFICANCE OF ALBUMIN AND CASTS IN SURGICAL PATIENTS.

There has been a belief among surgeons for many years that ether is so irritating to the kidneys that it should not be used with patients suffering from nephritis. Some advocates of chloroform consider the irritating effects of ether great enough even to cause nephritis in patients with kidneys normal before operation. As with many other beliefs we doubt if most of those who have held them could give their reasons for doing so. Probably a statement which has been made in standard text-books on therapeutics in several successive editions is partly responsible for this somewhat widespread opinion. These books state that chloroform is more irritating to the kidneys than ether, but the large quantity of the latter necessary for anesthesia makes it less safe. No facts are given on which to base this statement.

In a paper read recently by Dr. John C. Munro,[1] is contributed some valuable information on this subject based on the records of 4,185 cases treated in the surgical wards of the Boston City Hospital. Albumin and casts were found in the urine of 500 cases admitted within three years. From this number are excluded patients obviously suffering from renal degeneration. Practically every form of injury and disease are included in the series, the majority being of a serious nature. At least 60 per cent. underwent operation; about 12 per cent. suffered from fracture, and in many cases the etherization was of long duration. The cause of the frequent occurrence of albumin and casts, affecting approximately 35 per cent. of all surgical cases, is difficult to determine. The use of alcohol, insufficient or improper food and hard work are mentioned as possible causes. Unhygienic surroundings and improper clothing are probable factors in children. In a number of septic cases the renal disturbance subsided as soon as drainage was established by operation. The recoveries were quite satisfactory in 437 of these patients, there being no complications for which there was not adequate explanation on grounds independent of any kidney lesion. Among 63 cases that died, with 2 exceptions, the conditions found at postmortem examination did not give any weight to the urinary conditions as a cause of the fatal result. Munro concludes that we should expect evidence of renal irritation in over one-third of the surgical patients in a municipal hospital. A trace of albumin with or without hyaline and granular casts, unattended by any other evidence of renal damage, should not influence the prognosis in surgical disease or operation. The proportion of patients thus affected in young and otherwise healthy children is probably as great as in adults. The presence of albumin and casts should lead us to watch for other signs of organic degeneration which might unfavorably influence operation or recovery. Albumin and casts alone he does not consider a contraindication to the administration of ether.

This subject seems to us of great practical importance for everyone called on to administer an anesthetic, no matter how infrequently. The greater relative safety of ether as a general anesthetic at the time of operation is becoming more and more generally acknowledged. Prejudice has much to do with our beliefs in such matters, and until some of the older generation of surgeons die there will be a considerable number who will adhere to chloroform as the best general anesthetic. This is particularly true of the surgeons of Great Britain and Germany. Many of these mention the dangerous after-effects on the kidneys and lungs as the factors which keep them from using ether, though they admit it is safer at the time of operation. What we want is definite information as to whether these dangerous after-effects really do or do not occur, and by the careful study of so large a number of cases Munro has done much to settle the question so far as the kidneys are concerned. In this, as in many other matters in surgery, there has been too great a tendency to depend on general impressions rather than to seek for definite information by careful study of clinical material.

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[1] Transactions Amer. Surg. Assn., 1903.

### DEPRESSANT DRUGS AND SUDDEN DEATHS.

It is very interesting to examine the statistics of sudden death from heart disease in New York City during the last three years. In 1900 there were registered 4,069 deaths from heart disease in the greater city of New York in a population of approximately 3,445,000, while in 1901 there were 4,626 such deaths, the population having presumably increased about 100,000. Thus there was an increased ratio of sudden deaths to population. In 1902 the number of sudden deaths reported from heart disease had increased still further to 5,461. Calculating the percentages of sudden deaths from heart disease to population, allowing for the before-mentioned increase of population, the deaths of this kind to each thousand were, in 1900, 1.18; in 1901, 1.31; in 1902, 1.34.

For the year 1903 there was a decrease in the number of deaths from this cause, so that the ratio was only 1.28 per thousand. There has been some discussion among sanitarians and public-health officials as to the reason for this decrease. A portion of the decrease has been ascribed definitely—and with considerable plausibility—to a certain cause. At the beginning of last year the board of health, suspecting that many prescriptions for phenacetin were being filled by druggists with acetanilid, or with a mixture of phenacetin and acetanilid, sent inspectors to obtain definite information on this matter. Altogether 373 samples of phenacetin were bought from the same number of drug stores in various parts of the city, phenacetin being specially asked for and in some instances even obtained, on a physician's prescription. Of the 373 samples, 58 were pure phenacetin; 315 were adulterated with cheaper drugs, mainly acetanilid, and in 267 cases containing more acetanilid than phenacetin; 32 samples were pure acetanilid. The commissioner made these facts public, and threatened to expose and prosecute all druggists who would hereafter be found committing this misdemeanor.

It is very interesting at least to find that a single year after the investigation and supposed consequent reform on the part of the dispensing pharmacists, there should be a slight reduction in the actual sudden death rate from heart disease, and that at a time when for many years there has been a constant increase in the death rate from this cause. It is well known that acetanilid is a distinctly depressant drug for the heart. Professor Jacobi of New York always insists that it is an actual tissue poison, to be used only with great care, and many therapeutists teaching that it is the underlying cause for the increase in reported sudden deaths that has occurred in recent years.

This question of the evil of depressant drugs is all the more interesting because of the freedom with which so-called headache powders, mainly composed of acetanilid and other heart depressants, are now so commonly bought and sold. Many women, and even men, think nothing of stepping into a drug store and asking for something for a headache. The headache powders that are dispensed to them so freely always contain acetanilid, and great harm is being done in this way. It is probable that a similar investigation in other cities of the country might also furnish instructive facts. Certain it is that proper legal regulation of the sale of such depressant drugs, so that they could not be dispensed except under the direction of a competent physician, would in the long run have a beneficial effect on the sudden death rate from heart disease. This cause of sudden death is becoming more frequent in this country, and is a serious menace for those suffering from even slight forms of heart disease if they are so foolish as to take these remedies.

### ARTIFICIAL CAMPHOR.

Prior to 1828 chemists made a sharp distinction between organic and inorganic compounds, it being supposed that the latter are capable of preparation in the laboratory, while the former are formed only in the living organism, animal or vegetable, under the influence of a particular force—the life force. This view was rendered untenable by Wohler's discovery that urea, a typical secretion of the animal organism, can be prepared synthetically from cyanic acid and ammonia, two inorganic compounds. Many other "organic" compounds, such as acetic acid, lactic acid, glycerin and sugar have since been made synthetically, and as our knowledge of chemistry increased the old idea about a vital force has lost greatly in significance. We know now that the same chemical forces act both in the organic and inorganic worlds. It is well known that most of the vanilla extract now found on the market is not derived from the vanilla bean, but from coal tar. This coal tar furnishes a large number of other substances which are used in medicine and in the arts. Among these may be mentioned the various analgesics, anilin dyes and perfumes. Indigo and alcohol have also been made from their inorganic constituents, and recently chemists have discovered a method of making camphor synthetically, which makes the manufacture of this substance a profitable industry. Camphor has the formula $C_{16}H_{16}O$, and is an organic compound which was formerly derived only from the camphor-tree *Cinnamomum camphora*, by distilling the chips with water and purifying the product by sublimation. The camphor trees have, however, been growing scarce, and as a result the price of camphor has of late been very high. Japan has a monopoly on the natural product, but this monopoly has now been broken by the manufacture in this country of artificial camphor from turpentine. Turpentine has the formula of $C_{10}H_{16}$ and can be oxidized to $C_{10}H_{16}O$ by heating it with oxalic acid. A ton of turpentine is heated at one time with a quantity of oxalic acid, and out of this mixture is distilled the purest variety of camphor. It takes fifteen hours to complete a lot, and the yield of camphor is 25 to 30 per cent. of the weight of turpentine. Various other valuable oils are obtained at the same time as by-products.

### THE ETIOLOGY AND PATHOGENESIS OF AORTIC ANEURISM.

Once developed, there seems to be little hope for cure of aneurism of the aorta. Amelioration may be afforded, perhaps for a long period, by the introduction of gold wire and the passage of a galvanic current, and some good results have been reported from the use of gelatin subcutaneously. The prognosis is, however, never encouraging, and more is to be hoped for, in this instance, as in many others, from prophylactic measures rather than the treatment of the developed condition. Of the various causes that have been held responsible for aortic aneurism, by far the most important is syphilis, and the recognition of this fact means that the physician especially must do all in his power to prevent the spread of this disease, and to insist on its thorough and long-continued treatment when it occurs. Modern medicine is preventive medicine. Dr. Hans Arnsperger[1] has analyzed 37 cases of aneurism of the aorta—35 in men and 2 in women—observed at the Medical Clinic of the University of Heidelberg in the service of Professor Erb, not including 15 presenting merely dilatation of the aorta. Of the 35 cases in men, 15 were instances of diffuse and 20 of circumscribed aneurism, insofar as could be determined by physical examination without autopsy. Of this entire number a history of syphilis was obtained in 65.7 per cent. of the cases—in 48.6 per cent. with certainty and in 17.1 per cent. with probability; of the cases of diffuse aneurism a history of syphilis was obtained in 26.6 per cent.—in 20 per cent. with certainty and in 6.6 with probability; and of the cases of sacculated aneurism a history of syphilis was obtained in 95 per cent.—in 70 per cent. with certainty. As a result of these observations and of a study of the views of others on the same subject, it is pointed out that clinical-statistical investigation discloses with certainty that, in an exceedingly large proportion of cases of aortic aneurism, a history of syphilis can be obtained, while all other factors admitted to be of etiologic significance are demonstrable in only a small percentage. The conclusion seems, therefore, justified that syphilis is the most important factor in the etiology of aortic aneurism. Pathologic-anatomic investigation shows that the changes found in cases of aortic aneurism generally correspond to those observed in cases of syphilitic disease of the aorta. The alterations exhibit no certain, pathognomonic feature, but they conform with those recognized as certainly syphilitic. The findings suggestive of traumatism, such as primary rupture of the elastic coat, are in large part based on error. Experimental investigation teaches that inflammatory processes induced artificially may result in the development of aneurism, but these can not be caused by traumatic effects on the walls of the vessels, or only as a transient phenomenon. All of these considerations would seem to justify the conclusion that aortic aneurism is, in the overwhelming majority of cases, due to inflammatory processes in the wall of the aorta and that syphilitic disease of the vessel-wall plays a particularly important part in the etiology and pathogenesis of aortic aneurism.

### FERTILIZATION AND THE PRODUCTION OF SEX.

The production of sex was recently discussed editorially[1] and some recent studies of the subject noticed. Still another memoir bearing on the subject is that of Schuecking[2] which, however, covers a wider biologic range of study and includes a consideration of the essentials of fertilization as they occur both in the lower organisms and in the human species. A certain portion of Schuecking's experiments on the artificial fertilization of certain marine organisms was noticed in a former issue[3] of The Journal, but more recently he has published some interesting and perhaps important deductions. He finds that the taking up of water is a preliminary essential for both artificial fertilization and parthenogenesis and that fertilization is more certain the larger the number of spermatozoa. It is rather incomprehensible why so large a number should be required—some two or three hundred millions—when but a single one is sufficient for fertilization, and he thinks he finds an explanation in his observation. The excessive number appears to increase the protoplasmic excitation and water inbibition, thereby to overcome the acidity of the secretions of the parts which are increased (in the human species) from the close of one menstrual period to another, and it is only in this way that conception is able to take place. Assuming that the sex is established in the ovum before conception, which certain facts seem to indicate—such as the similarity of sex from single ovum twins—and which has been demonstrated in some of the lower animals, he holds that the female ovum requires a much larger quantity of water to start its development than does the male ovum and thus explains certain facts, such as the increase of male children after a war when oligospermia may be assumed to exist. The facts suggest that sterility might be combated by a preliminary injection of weak alkaline fluids together with massage of the pelvic organs after deposition of the semen. Schuecking's deductions are certainly suggestive as regards not only the mechanism of fertilization, but the question of the production of sex which is so much to the front of late years.

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[1] Deutsches Archiv für klinische Medicine, vol. lxxviii, Nos. 5-6, p. 387.

[1] The Journal A. M. A., Dec. 26, 1903, p. 1578.

[2] Article read before the Naturforscher Congress at its seventy-fifth meeting in Cassell and published in the Klinisch-therapeutische Wochenschrift, November 29.

[3] The Journal A. M. A., vol. xl, p. 694.

## Medical News.

### GEORGIA.

**Still More Smallpox.**—It is reported that there are at present from 15 to 20 cases of smallpox among negroes at Stillmore.

**Memorial to Dr. Gaston.**—The Atlanta Society of Medicine at its last meeting adopted resolutions in memory of the late Dr. J. McFadden Gaston.

**Cornerstone Laid.**—The cornerstone of the New Hospital for Incurables, Atlanta, was laid with appropriate ceremonies, January 3. The building is expected to cost about $12,000.

**Physician Shoots Physician.**—Dr. Otis B. Sally, Augusta, was shot and seriously wounded by Dr. J. E. Durr, December 9. The cause is said to be professional jealousy. The bullet penetrated the apex of the right lung.

**Election of Officers.**—The Chatham County Medical Society held its annual meeting at Savannah, January 6, and elected the following officers: President, Dr. J. Lawton Hiers; vice-presidents, Drs. George R. White and Ralph M. Thomson; recording secretary, Dr. Ralston Larrimore; corresponding secretary, Dr. James O. Baker; treasurer, Dr. William J. Williams, and librarian, Dr. Alpheus B. Simmons, all of Savannah.

### ILLINOIS.

**Physician Injured.**—Dr. Thomas B. Norvell, Peoria, was thrown from his sleigh, January 2, and injured his ankle.

**Smallpox in Twenty Counties.**—The State Board of Health reports the disease as present in 30 localities in 20 counties, with an aggregate of about 300 cases.

**Physicians Shun Advertising.**—Whiteside County Medical Society is reported to have adopted a resolution "requesting the newspapers to refrain from mentioning the names of physicians in connection with accidents or other cases where doctors are called."

**Quarantine of Lemont Raised.**—Lemont, which has been in strict quarantine since October 20, on account of epidemic smallpox, is now open to the world. None of the 380 cases was followed by death. The epidemic is now checked and the last of the affected are convalescent.

**State Board Election.**—At the annual meeting of the Illinois State Board of Health, held in Springfield, January 12, the following officers were re-elected: Dr. George W. Webster, Chicago, president; Dr. James A. Egan, Springfield, secretary, and Dr. James C. Sullivan, Cairo, treasurer.

**Send in Large Bills.**—The village health officer of Lemont, Dr. John A. Fitzpatrick, has rendered an account to the Board of County Commissioners of $5,820 for his services from October 20 to November 11. Dr. John J. Leahy presents his bill for $5,753. The president of the board asks, since each man asserts that he did the work, whether the county is liable for the payment of both bills.

**State Board Inspections.**—The inspectors who investigated the recent epidemic of typhoid fever at Canton discovered that the disease was caused by the use of water from a polluted well. The well was closed, and no original cases have since developed.——In Pontiac the water supply was found to be slightly polluted, and the local board was directed to order the removal of an intake which was found to be the source of the trouble.

#### Chicago.

**Superintendent from Minnesota.**—Presbyterian hospital has secured for superintendent Dr. Arthur B. Ancker, St. Paul, who has been for several years superintendent and physician and surgeon in charge of the City and County Hospital, St. Paul.

**Postmortem Award.**—A suit begun a long time ago by Dr. Emma N. Warne, against the estate of Francis T. Wheeler, for $50,000, has been decided in favor of the plaintiff, who is now dead, and the amount of the award, $12,500, has been paid to her estate.

**Deaths of the Week.**—During the week ended January 9, 516 deaths occurred, 88 less than the preceding week, and 109 less than the corresponding week of 1903. Pneumonia still leads with 114 deaths, next coming in order, tuberculosis, with 44, violence with 39, and Bright's disease with 38.

**Increased Longevity.**—The department of health draws the following deductions from the statistics of deaths in Chicago last year:

> The aggregate ages of the 28,353 decedents of 1903—exclusive of the theater-fire victims, not yet reported to the department—total 910,982 years, or an average of 32.1 years each. In 1892 the average was 22.6 years each, in 1882, 19.5; in 1872, 15.2. These figures show an increase in the average duration of human life in Chicago in less than a single generation—thirty-one years—of 111 per cent., or of more than double in 1903 that of 1872. In 1903 the average age at death was 42 per cent. greater than in 1892; 60 per cent. greater than in 1882, and, as already said, 111 per cent. greater than in 1872.

**Three Chicago Colleges Debarred.**—The Wisconsin Board of Medical Examiners decided, January 12, not to accept as evidence of ample medical training the diplomas of Harvey Medical College, National Medical University and Jenner Medical College, all of Chicago. The ground for the action is stated to be that the courses of study in those institutions do not come up to the standard adopted as the minimum by the Wisconsin board. Other schools that are deficient are to be removed from the accredited list. The board is also about to prosecute a number of unqualified practitioners in the state. The president of Harvey Medical College is reported in the Chicago *Tribune*, January 13, to have stated in an interview in defense of the graduates of that college:

> In the ten years of our existence, among the hundred graduates we have sent out, only two have failed to pass the state examinations creditably, and those two men both failed in Wisconsin. They went through Harvey, however, before we had our modern equipment.

We are afraid that the president of Harvey College was misquoted, or possibly she has not followed the results in all states. From our records we find that outside of Illinois, only 8 Harvey graduates have appeared before the various licensing boards whose records we have published, and of these 4 passed and 4 failed, a percentage of failures of 50 per cent. The failures were as follows, one in Wisconsin, January, 1902, and one in April, 1902; one in Idaho, in April, 1903, and one in Wisconsin in July, 1903. All of these failures were of the class of 1901. It would seem that the Harvey graduates as a rule stay in Illinois, for our records show that the Illinois board has licensed from July, 1902, to July, 1903, inclusive, 34 holding diplomas of that school, and rejected none.

### INDIANA.

**Measles Epidemic.**—At the Indiana Institution for the Deaf, Indianapolis, 81 out of the 340 inmates are ill with the disease.——The epidemic in Norwood is unabated, 63, or about one-eighth of the population, are ill.——At St. Joseph's Orphan Asylum, La Fayette, 87 out of 157 are ill with measles.——Up to January 6, 244 cases had been reported to the Indianapolis Board of Health.——At a school in Trafalgar, 18 out of 20 pupils have the disease.

**Personal.**—The venerable Dr. William H. Wishard, who has practiced for 64 years in Marion County, was elected president of the Indianapolis Medical Society, January 5.——Dr. William Flynn, Marion, has been seriously ill with pneumonia.——Dr. Samuel Brown, New Bethel, is seriously ill.——Dr. Alembert W. Brayton, Indianapolis, has recovered from his recent illness.——Dr. Stanley W. Edwins, Elwood, is dangerously ill.——Dr. Isaac N. Trent, Muncie, has been elected second vice-president of the state medical society.

**Disease and Death in November.**—The monthly statistics of the State Board of Health show that bronchitis was the most prevalent disease in November, and tonsillitis the next prevalent. Pneumonia was more prevalent than in the same month last year, the deaths being 241 and 181 respectively. The total number of deaths reported was 2,518, an annual rate of 12.2 per 1,000. In the corresponding month last year 2,406 deaths were reported, which is a rate of 11.6 per 1,000. The city death rate during the month was 15.5, which is 3.3 higher than the state rate for the same month. In the corresponding month last year the rate was practically the same as this year. The country death rate is 10.4. In the corresponding month last year it was 9.7. In November 324 cases of smallpox occurred in 33 counties, with one death. It is a singular coincidence that exactly the same number of cases was reported in October, and also the same number of deaths. In the corresponding month last year, there were 441 cases, with two deaths, and 40 counties were invaded. The tuberculosis deaths numbered 279, a rate of 135.2 per 100,000. The same month last year the deaths numbered exactly the same, another remarkable coincidence. Of the total deaths from consumption, 146 were females and 133 males; 28 of the males were married and between the ages of 18 and 40, and they left 56 children under the age of 12; 60 of the females were married and between the ages of 18 and 40, and left 120 children under the age of 12. Typhoid fever caused 105 deaths. The death rate from this cause for the whole state was 50.9 per 100,000. The city rate was 447; the country rate 54.4. Pneumonia deaths numbered 241, a rate of 116.8 per 100,000. In the corresponding month last year the rate was 87.7. The disease prevailed very much more extensively in the cities than in the country, the rates being respectively: city, 179.1 per 100,000; country, 84.5. Pneumonia does not lead consumption as a cause of death in Indiana, and has only done so in one or two months in the last four years. The violence deaths numbered 163. Of the violent deaths 4 were murders, 27 suicides and the rest accidental; 9 of the suicides were females, and chose the following methods of self-destruction: Drowning, 1; morphin, 3; carbolic acid, 3; other poisons, 2. Some of the causes of accidental deaths were: Railroads, 23, 2 of them being females; burns and scalds, 27, 16 being females; fracture of skull 11, all males; fracture of femur or other bones, 11, 7 being females; accidents in mines, 3; electricity, 1; horses, 3, and explosions, 2.

## KENTUCKY.

**College Incorporated.**—The Louisville National Medical College Company, which conducts a medical college for colored students, has been reincorporated with a capital stock of $12,000.

**Acquitted.**—Dr. W. Dallas Richards, Dayton, accused of having violated a city ordinance by failing to report a case of diphtheria and to placard the house, has been acquitted after a trial by jury.

**Smallpox.**—There are six cases in and near Burgin.——Several severe cases are reported from Webster County.——On account of the prevalence of the disease in Hart County, grand and petit juries have been dismissed.

**Personal.**—Dr. Alexander Bailey, Flagfolk, has been appointed second assistant physician at the Eastern Asylum for the Insane, Lexington.——Dr. S. Scott Prather, Louisville, is seriously ill with typhoid fever.——Dr. James M. Holloway is critically ill with kidney disease at his home in Louisville.——Dr. Cleva C. Owens, Frankfort, has been appointed first assistant physician of the Central Asylum for the Insane, Lakeland.——Dr. James W. Hill, Bardstown, has been appointed superintendent of the State Institution for Feeble-Minded Children, Frankfort.——Dr. J. R. M. Dillon, Paducah, has moved to New Orleans.

## LOUISIANA.

**Quarantine Laws.**—The State Board of Health met yesterday to consider requirements for land quarantine as a protection against the importation of yellow fever from western sources of contamination. No rules will go into effect until after a conference with the health authorities of Texas.

**New Orleans Pasteur Institute.**—The organization of the Pasteur Institute has been completed and the institute was formally turned over to Charity Hospital, January 4. It is now ready for the free treatment of every citizen of the state suffering or supposed to be suffering from this disease.

**In Favor of Tulane.**—The Louisiana Supreme Court has decided in favor of Tulane University the first and most important of two contests to the Hutchinson will. Eight hundred thousand dollars was left to the university to be used for its medical department for specified purposes. The first contest was as to the validity of the will and the second was as to whether the university could act as trustee for one of its departments. The second contest on the decision has not yet been rendered.

**Change of Meeting-Place.**—The Louisiana State Medical Society has changed its meeting place for 1904 to New Orleans. The remarkable increase in the size and activity of the state society promises such an unusually large meeting that those in charge of affairs at Lafayette feared that it would be impossible for them to accommodate properly the large number expected. The Orleans Parish Medical Society immediately extended a cordial invitation, and is vigorously pushing preparations for the largest and most successful meeting the state society has ever had.

## MARYLAND.

**Personal.**—Dr. Josiah S. Bowen, Mt. Washington, sailed for Europe, January 2.

**Smallpox.**—There is a case of smallpox at Mt. Pleasant, Frederick County, contracted, it is believed, from a man who died from the disease, December 31.——At Oakland there are 12 or more cases, all under strict quarantine.——A suspect is under quarantine at Sang Run.——At Loch Lynn Heights the quarantine was raised January 4.——It is reported that smallpox has broken out among the colored people near Ellicott City. The two physicians who saw the cases, some 20 or more, pronounced them respectively chicken-pox and smallpox; Dr. John S. Fulton, secretary of the State Board of Health, decided in favor of genuine smallpox.

### Baltimore.

**Deaths and Births.**—The week ended January 9 there were 235 deaths and 294 births reported. The annual death rate was 21.82 per 1,000, namely, for whites 18.66, for colored 39 per 1,000. Among causes of death were consumption 39, pneumonia 32, cancer 12, Bright's disease 10, diphtheria 5, and typhoid fever 3.

**Hospital Report.**—At the Presbyterian Eye, Ear and Throat Charity Hospital, 11,844 patients were treated during the year. One thousand dollars was expended out of the endowment fund for improvements. Of the cases treated 7,419 were eye cases, 2,042 ear cases, and 2,383 nose and throat. The daily average was 111. The treasurer reported a balance on hand of $1,528. Dr. Francis M. Chisolm was re-elected secretary of the board.

**Personal.**—Dr. Howard A. Kelly returned January 7 from a trip to Florida. His time there was spent in hunting and fishing. He attended a Spanish dinner given by the physicians of Tampa.——Dr. John B. Deaver, Philadelphia, will deliver the annual oration before the Medical and Chirurgical Faculty of Maryland in April.——Dr. Morris C. Robins, formerly associate professor of clinical medicine in the University of Maryland, has removed to Spokane, Wash.

**Tuberculosis Exposition.**—The Tuberculosis Exposition will open in McCoy Hall, Johns Hopkins University, January 25. The opening meeting will be held at 8 p. m. Prominent officials of the state and city will be present, including Governor Warfield and Mayor McLane. The orator of the evening will be Dr. Edward L. Trudeau, Saranac, N. Y. At 5 p. m. daily thereafter there will be lectures on various aspects of the tuberculosis problem, the lecturers being Dr. Mazyck P. Ravenel, Philadelphia; Dr. S. A. Knopf, New York; Mr. Frederick Hoffman, Newark, N. J.; Mr. Ernest Poole, New York; Dr. Vincent Y. Bowditch, Boston; Dr. George J. Adami, Montreal, and Dr. Lawrence Flick, Philadelphia.

**Report of Hospital for Insane.**—The Shepherd and Enoch Pratt Hospital for Mental and Nervous Diseases has issued its twelfth annual report. At this time 104 patients remained under care. There had been received new cases 120, and 114 discharged. Of the latter 20 were recovered and 48 improved. The trustees admitted all cases recommended by the staff as probably curable. About 15 per cent. of the 104 patients were treated free, and only 18 per cent. paid the average cost and over. With the exception of expenditures for needed buildings and repairs, the entire income was expended for the benefit of the hospital inmates. The laboratory has been enlarged and furnished with additional appliances, and the most advanced methods of investigation are there pursued. Of those admitted during the year, 58 were men and 62 women, of whom 19 men and 21 women were discharged unimproved, and one man and three women died.

## MASSACHUSETTS.

**Glanders on Increase.**—Sixty horses were quarantined in Cambridge during 1903 for glanders, and of these 54 were shot. This is an alarming increase in the prevalence of the disease.

***Deaths of 1903.***—Boston's death rate for 1903 is lower than usual, being only 17.70 per 1,000. The total number of deaths was 10,640, 343 less than in 1902. During the year 68 cases of smallpox with 13 deaths occurred in the city.

**Asphyxia for Criminals.**—Dr. Francis A. Harris, medical examiner for Boston, has written a letter to the public press advocating the substitution of some less "cruel and unusual" method of inflicting the death penalty than electrocution and suggesting the administration of carbon-monoxid to the criminal already in a narcotic sleep.

**Popular Medical Lectures.**—Public interest in things medical in Boston is shown in the course of lectures being given at the Lowell Institute on "Bacteriology" by Dr. Harold C. Ernst of Harvard Medical School, twice a week for four weeks; and by the lecture on "Consumption" before the Twentieth Century Club by Dr. S. Adolphus Knopf, New York City.

**Business Before Health.**—The Board of Health of Melrose has resigned, giving as a reason that they need more time for their own business. They have encountered sharp criticism since the smallpox epidemic last year, when they insisted on vaccination and the most thorough isolation and inspection. The board consisted of Drs. Paul H. Prorandie and John T. Timlin and Mr. J. H. Robinson.

**Brigham Bequests Benefit.**—The following hospitals among 21 charitable institutions received their annual gift of $1,000 from the Brigham Hospital Corporation: Massachusetts Charitable Eye and Ear Infirmary, Channing Home for Consumptive Women, Children's Hospital, Massachusetts Infant Asylum, Boston Home for Incurables, New England Hospital for Women and Children, and the Boston Lying-in Hospital.

**Children Thrive in New Home.**—The annual meeting of the corporation of the Convalescent Home of the Children's Hospital in Boston, which has been so crippled the past year by fire, while seeking the erection of a new building to accommodate 100, reports a marked success in its new building, where children receive the radical fresh-air treatment for tuberculosis. It is believed this is the first such building in the country, and the eight children there already show improvement in these few weeks.

**Insane Hospital Crowded.**—The fire at the Taunton Insane Hospital, where fortunately there was no loss of life, has called the attention of the public to the very crowded condition of the state insane hospitals. More than 8,500 people are cared for, and there is an increase of over 400 each year. There are sleeping accommodations for only about 7,400, so that 1,100 have to sleep on cots in corridors. In many buildings this is unsafe, hence the urgent demand of the officials this year for funds which will provide new buildings for at least 600 patients. During the past three years additional facilities have been provided by the state at Westboro for 350; at Taunton, 110; at Northampton, 200; at Danvers, 300; at Worcester, 150, and at Medfield, 170. All these hospitals are also establishing colonies which it is hoped will relieve the pressure somewhat. Beginning this year the state assumes the care of all the insane within its borders. This includes Boston, which city will, however, continue its own institutions and receive from the state a per capita amount. This means an annual additional expense to the state for care alone of $1,100,000.

## MISSOURI.

**Personal.**—Dr. Charles H. Wallace, St. Joseph, has been appointed chief surgeon of the St. Joseph and Grand Island Railway, vice Dr. Daniel Morton, resigned.——Dr. William W. Macfarlane, Mexico, has been re-elected surgeon-in-charge of the Ex-Confederate Home at Higginsville.——Dr. Asbury M. Crow, Kansas City, is critically ill.——Dr. Melvin W. Caster, Clayton, has been taken to the Missouri Baptist Sanitarium.——Dr. Harry E. Ferrel, St. Louis, assistant surgeon of the First Missouri Infantry, has resigned.——Dr. Edward C. Runge, superintendent of the St. Louis Insane Asylum, has resigned, to take effect February 1.

**Societies Elect Officers.**—Buchanan County Medical Society.—At the annual meeting held in St. Joseph, December 16, the following officers were elected: Dr. William T. Elam, president; Dr. John B. Reynolds, vice-president; Dr. Joseph J. Bansbach, treasurer; Dr. Charles W. Fassett, secretary; Dr. Thompson E. Potter, censor, and Dr. O. Beverly Campbell, delegate to the state association.

St. Louis County Medical Society.—At the annual meeting held in Clayton, December 9, Dr. Roy D. Moore, Central, was elected president; Dr. Howard Carter, Webster Groves, vice-president, and Dr. Harry G. Wyer, Kirkwood, secretary.

St. Louis Medical Society of Missouri.—The following officers were elected at the annual meeting, December 26: President, Dr. Benjamin M. Hypes; vice-president, Dr. Henry C. Dalton; recording secretary, Dr. T. Andrews Hopkins; corresponding secretary, Dr. Henry J. Scherck; treasurer, Dr. Robert M. King, and censors, Drs. Elisha H. Gregory, Robert C. Atkinson, and Paul Y. Tupper.

## NEW YORK.

**Compulsory Vaccination.**—The board of health of Jamestown required all children in public and private schools to be vaccinated before re-entering school after the Christmas vacation.

**Medical Mayors.**—Dr. Eugene Beach has been elected mayor of Gloversville. Dr. Beach is also a member of the State Board of Medical Examiners.——Dr. Edward F. Brush has been elected mayor of Mount Vernon.

**Drugs Are Poor.**—At the State Board of Pharmacy meeting the committee on adulteration and substitution of drugs reported that of 976 samples tested in the state 415 were found to be below the standard. The number of samples taken from the New York City drug stores was 871, of which 310 were found to be impure or substituted drugs.

**Smallpox Spreads.**—Smallpox continues to spread in Tonawanda, so that all the public schools are closed until further notice. The health board has also passed a resolution requesting the council to raise $4,000 to fight the disease.——In Buffalo the disease is well under control, and no new cases are reported.——Dr. A. C. Wilding has been directed to investigate the epidemic of smallpox in Chautauqua and Allegany counties.

**New Cocain Laws Needed.**—To check the cocain and morphin habit the State Board of Pharmacy has decided to recommend to the legislature the enactment of a law prohibiting the sale of these drugs on old prescriptions, or what are known as "repeaters." The sale is to be restricted to prescriptions of physicians and dentists, only one sale to be made on each prescription. The cocain habit is growing so rapidly that many pharmaceutic associations in the state have urged the importance of a state law to lessen, if not entirely stop, the sale of the drug to habitual users.

### Buffalo.

**New District Physician.**—Dr. George Westinghouse is now district physician, succeeding Dr. Eugene C. Waldorf.

**Senses Hospital Report.**—The twelfth annual report of the Charity Eye, Ear and Throat Hospital shows 1,507 new cases treated, and 7,611 old patients. Since the opening of the hospital 20,639 patients have been treated.

**State Hospital Report.**—The Buffalo State Hospital has issued its thirty-second annual report covering the year ended Sept. 30, 1902. The total number of patients treated during the fiscal year was 2,296, of which 1,059 were men and 1,237 women. It will be necessary to enlarge the hospital, as it is now filled to its utmost capacity.

### New York City.

**Personal.**—Dr. Samuel Alexander, professor of genito-urinary diseases, has obtained a leave of absence on account of sickness, and this year the lectures on the surgery of the genito-urinary tract will be given by Dr. Charles L. Gibson.——Dr. A. D. Davidow has moved to Florida, N. Y.

**Left Small Estate.**—It will be a great surprise to many who knew the late Dr. Cyrus Edson, and had knowledge of the extent of his medical practice, as well as the amount of other work that he did, to learn that his estate amounted to only $4,000. It is but another example of the common lack of business ability among medical men.

**Society Secures Permanent Quarters.**—The Eastern Medical Society of New York has engaged permanent quarters at 151 Clinton Street, New York. The building will offer every facility of the modern clubhouse, all of which will be open to the members. A reference library is one of the projected features. At the annual election, held recently, the following officers were elected: President, Dr. Louis J. Ladinski; vice-presidents, Drs. David Robinsohn and Tobias Berger; treasurer, Dr. Joseph Barsky; corresponding secretary, Dr. Abraham L. Wolbarst, and recording secretary, Dr. Abraham J. Ronginsky. Dr. Wolff Freudenthal was elected trustee for three years. The chairmen of the new committees are: Committee on ethics, Dr. Adolph A. Himowich; committee on house, Dr. Ephraim K. Browd; committee on admission, Dr. John A. Price, and committee on library, Dr. Charles Rayevsky.

## GENERAL.

**Military Hospitals Wanted.**—The Army Medical Department, in its schedule of desired appropriations amounting to $475,000, has the following: "A modern hospital of 100 beds to cost $100,000 at Fort Riley, a modern hospital of 24 beds to cost $30,000 at Fort Totten, N. Y., the enlargement of the hospitals at Fort Leavenworth, Kan., Fort Snelling, Minn., and Fort Sheridan, Ill., to cost respectively $45,000, $50,000 and $60,000.

**Typhoid Fever Committee.**—This committee of the conference which state health officers will hold with the U. S. Public Health and Marine Hospital Service has been appointed as follows: Dr. J. A. Egan, secretary of the Illinois State Board of Health, chairman; Dr. Samuel W. Abbott, State Board of Health of Massachusetts; Dr. William C. Woodward, health officer, District of Columbia; Dr. J. S. Fulton, State Board of Health of Maryland, and Dr. J. N. Hurty, State Board of Health of Indiana.

**The Tuberculosis Congress Situation.**—A meeting to discuss this situation will be held at 8:15 p. m., Jan. 28, 1904, at McCoy Hall, Johns Hopkins University, Baltimore, under the auspices of the Maryland Tuberculosis Commission. The meeting will be an informal one, and all American physicians and hygienists interested in the tuberculosis problem of this country are invited. The object of the meeting will be to form a national committee to represent the American medical profession at the International Congress on Tuberculosis to be held in Paris in 1905, and to discuss the announced Congress on Tuberculosis in St. Louis, and the other congress to be held in

Washington in 1905. It is to be hoped that the deliberations of this meeting will result in an understanding among all parties concerned, and that all individualism and partisanship will be supplanted by true love to humanity, by genuine scientific and practical methods, and by the highest professional motives. If it is the unanimous opinion of the medical profession that there should be an American Congress on Tuberculosis previous to the one which is to meet in Paris next year, it should be thoroughly representative and an honor to the American medical profession. Prof. Wm. H. Welch of Johns Hopkins has consented to preside. All communications relating to the meeting should be addressed to the secretary pro tem, Dr. H. Barton Jacobs, 11 Mount Vernon Place, Baltimore.

### CANADA.

**Grant to Victoria Order of Nurses.**—The Civic Treasury Board of St. John, N. B., has made a grant of $1,000 to the Victorian Order of Nurses. In connection with this order in St. John there are two nurses who last year made 3,000 visits to the homes of the poor. The nurses never attend cases except when asked for by a physician.

**Vancouver Physicians Want Health Officer.**—The Vancouver Medical Association has expressed itself as in favor of a city health officer who should give all his time to the duties of that office and who should be a competent bacteriologist and be provided with the necessary outfit for making examinations. A committee is investigating the conditions in other cities before the matter is taken to the city authorities.

**Montreal Health Statistics for 1903.**—In Montreal, for the past year, the deaths numbered 6,941 as against 6,275 for 1902. According to the government census of Montreal, with which the health officer does not agree, the death rate for 1903 would be 24.22 per 1,000. According to the calculations of Dr. Laberge, the rate should be 21 per 1,000. The death rate during the summer was larger than during other seasons, owing to the heavy mortality among children. The medical health officer hopes to reduce this in future years by a better understanding among young mothers as to the care of their offspring, a purer milk supply and greater attention to the feeding of children.

**The Physicians of New Brunswick and Vital Statistics.**—We have mentioned the proceedings against the physicians of St. John, N. B., for not reporting births to the registrar. The counsel for the medical practitioners gives it as his opinion that the law is unconstitutional, and that the sole and exclusive right to legislate with reference to vital and all other statistical matters belongs not to the local legislature but to the parliament of Canada. When these acts were first passed they did not compel physicians to report. At the last legislature an amendment was made compelling physicians to make these reports with a number of details, and in default of same, after five days, a fine of $20 or imprisonment in the county jail.

**Typhoid Epidemic in the Suburbs of Montreal.**—Typhoid fever is epidemic in Westmount, St. Henry and Ste. Cunegonde, suburbs of Montreal, and the one thing which these municipalities have in common, which is not shared by Montreal, is the water supply. The character of this has been criticised severely for the past two years. In St. Henri there are nearly 300 cases, and in the others over 200. Physicians and nurses are overcrowded, and hospitals are said to be unable to care for more patients. In the Royal Victoria Hospital, Montreal, there are 40 cases; in the Hotel Dieu, 20 cases; in the General, 28; Notre Dame, 12, the great majority of which have been brought in from the infected districts. At the request of the municipality of St. Henri the Provincial Board of Health will make an analysis of the water. Dr. Laberge of Montreal states that he has been informed that many of the cases of supposed typhoid are cases of la grippe.

### FOREIGN.

**Prizes Awarded by the Paris Academie des Sciences.**—Among the beneficiaries, the Paris professors, Albert Fournier and C. Richet received a $2,000 prize each, as also Prof. A. Monprofit of Angers. A woman, Miss Joteyko, received half of a prize of $260 for work on the nervous system. Two other prizes of about $200 were given to Arthus and V. Henri, and L. Damel for research in experimental physiology.

**Legacy to Provide Medical Attendance for the Rich.**—The will of a wealthy citizen of Montpellier, France, bequeathes a certain apartment building to the city authorities, the income from which is to be applied to the support of two young assistant professors—agrégés—who will treat all who apply, including and preferably the rich. The city authorities do not wish to undertake to supply medical care to the rich, and consequently do not know what to do with the bequest.

**A Prophylactic Novel.**—A French play was written a year or so ago which depicted the ravages of syphilis. It was entitled "Les Avariés" and, it is said, was written by Brieux in accordance with data furnished by Fournier. The public production of the play was prohibited by the censor, but this prohibition proved a great advertisement for the work, which was read extensively as the last sensation of the day, and was hailed by the profession as an important aid in the enlightenment of the public in regard to the dangers of venereal disease. A novel has recently been written along the same lines by Paul Bru, director of the Saint-Antoine Hospital at Paris. The theme is the sad fate of a bride infected by her husband's old and apparently insignificant gonorrhea. Pelvic lesions soon follow, compelling castration of the victim. In her horror at her unsexed condition she becomes insane. The title of the book is "L'Insexuée"—the Unsexed—and De Lavarenne recommends it as a touching work and a valuable contribution to the prophylaxis of venereal disease. In an editorial in the *Presse Médicale* he urges physicians to read the book so that they can commend it to their young male patients. The subject is handled as delicately as possible and appropriately for the general reader, but the possible evil consequences from an apparently trifling venereal disease are vividly portrayed. Brieux, the author of "Les Avariés," supplies a preface to the novel, and states in it that he considers gonorrhea as actually more dangerous than syphilis, as young men in their ignorance regard it so lightly.

### LONDON LETTER.

#### The Oyster Problem.

We have alluded recently in The Journal to outbreaks of typhoid fever from sewage-contaminated oysters in London and other places. As a result of the last oyster scare the Fishmongers Company has assumed the responsibility of examining the beds from which the London market is supplied, giving a certificate of health to oysters considered beyond reproach. These certificates have been accepted as guarantees by the consumer. Such certificates were given only after grave consideration and examination of the beds by experts appointed by the company, who in many cases ordered the closure of beds. The company is now indignant because Dr. Klein, the city bacteriologist, has condemned as sewage polluted oysters to which the company had given a certificate. Most wholesale dealers take the precaution of obtaining a certificate of purity from independent bacteriologists.

#### Typhoid Fever from Water-Cress.

An outbreak of typhoid fever, which took place in June, in Hackney, a metropolitan borough, has been traced by the health officer to water-cress. The outbreak occurred in two waves. The first consisted of 48 cases, almost all within a circle of one-third of a mile radius; the second, of 62 cases within a circle of half a mile radius. None of the usual sources of infection, such as water, milk, ice cream and shellfish, could be traced. But the health officer was struck with the fact that in 64 cases in the first wave and in 55 per cent. of the second the patients had eaten water-cress during the three weeks before illness. He, therefore, caused 17 samples of water-cress taken from places where the patients marketed to be examined. All showed sewage organisms, and a sample of water taken from beds near the metropolis where some of the cress was grown contained at least 50 colon bacilli per c.c. The health officer consequently suggests that an inquiry should be made as to the conditions under which water-cress is cultivated.

#### The Polyclinic.

At the fifth annual dinner of the members and friends of the Polyclinic the chairman, Mr. James Cantlie, said that the attendance at the institution had been large and annually increasing. A new hospital is necessary.

#### Boldness in the Treatment of Heart Disease.

At the West London Medico-Chirurgical Society Dr. Alexander Morison advocated boldness in the treatment of heart disease, especially in young adults and in those in the prime of life in whom there is no evidence of vascular degeneration and whose reserve of force is commensurate with their development. He recommended the tincture of digitalis or the combined tinctures of digitalis and strophanthus in doses of 15 to 30 m. every four hours until a definite effect is produced on the action, force and capacity of the dilated heart. This may require the continuous administration of the drug until 200 or 300 m. have been taken. But before beginning this treatment the patient must be prepared. In suitable cases the surcharged venous system must be relieved by venesection to 4 to 10 ounces, the edematous limbs drained by Southey's tubes or by incision, and effusion in the chest or abdomen removed as far as possible. For the treatment the constant supervision of skilled nurses is necessary.

## Correspondence.

### The Proposed National Bureau of Medicines and Foods.

SAN FRANCISCO, Jan. 7, 1904.

*To the Editor:*—Correspondence with the Joint Committee on a National Bureau of Medicines and Foods has developed several questions, one of which I should like to present through your columns for the purpose of eliciting suggestions. The question raised is as to the need for any such organization. There seems to be no dispute as to the truth of the fact that medicines and foods do not come up to fair standards of purity and identity. It is also agreed by all that many poor or worthless preparations of both pharmacopeial and extra-pharmacopeial preparations are on the market and are largely used. No one—especially no one in any way connected with medical journalism—has questioned the desirability of securing some means of determining the status of the host of mixtures, some ethical, some "proprietary," and some out-and-out nostrums, which now exist. The question at issue is as to the manner with which the situation shall be dealt. Can it be properly and successfully accomplished by legislation, either state or national? Some improvement can undoubtedly be secured through national legislation, insofar as the improvement of standard goods is concerned. But could national legislation, necessarily limited within the constitution, deal with more than a mere fraction of the problems that should be taken up and solved?

State legislation is less limited in possible scope, for it is not confined within the limits of the U. S. Constitution. Probably laws that would be within the limitations of the various state constitutions could be, theoretically, framed. But could they be made uniform, and could they be so framed as to cover the essential desiderata? And in the event that they could be framed and cover the ground properly, is it likely that such uniform laws could be passed in all the states? It is, on the one hand, contended that such state legislation should be striven for; on the other, that an immense amount of time and energy would necessarily be spent in this well-nigh Herculean task, and that if the laws could be passed, they would not be enforced. The committee is very desirous of securing as many opinions on these points as possible, to be considered in the preparation of its report.

Could legislation, either state or national, do anything to remedy the deplorable condition pointed out in a letter which I recently received from one of the best-posted physicians in the country, relative to the ethical status of present conditions? He says, in part: "In the good old days the medical profession stood as a unit in condemnation of all secrecy and monopoly in medicine. To-day, the professional spirit has waned to such a degree that the physician who sees advertised in his medical journal such things as ——, —— or —— does not stop to ask what place these things have in a scientific materia medica, but gives the new remedy a trial. It may be that the formula is published; it may be that there is a vague and prevaricating statement of the composition of the remedy, or it may be that a sphynx-like silence is maintained. So it has come to pass that largely the American physician of to-day is prescribing and is content to prescribe secret nostrums in place of remedies of known therapeutic properties." After reading his letter I read the Principles of Medical Ethics adopted by the American Medical Association, Chap. I, Art. I, Sec. 8, as follows: "It is equally derogatory to professional character for physicians to . . . . dispense or promote the use of secret medicines . . . ."

I voice not only my individual views, but also, I believe, the views of most, if not all, of the other members of the committee, when I say that we would like, if possible, to provide some means of bringing the profession back a little nearer to this section of the Principles of Ethics. We would like to be enlightened on this point by the views of others. Is it possible to do this by means of legislation, or in any way except by our own individual and collective effort? Can the objects sought be secured through the means of legislation? Suggestions or criticisms should be sent either to the chairman, Dr. H. H. Rusby, 776 DeGraw Avenue, Forest Hill, Newark, N. J., or to the undersigned, the secretary, at 31 Post Street, San Francisco.

PHILIP MILLS JONES, M.D.

### Technic in Treatment of Alcoholism.

MARINETTE, WIS., Jan. 5, 1904.

*To the Editor:*—Your editorial in THE JOURNAL, January 2, on "Technic in Treatment of Alcoholism," suggested by the paper of Dr. J. F. Kelley in the *Cleveland Medical Journal*, calls for a comment. It has been my custom for some time to stop the alcohol at once, and I have never been sorry for so doing.

A brief outline of treatment may be of interest: If, after an examination, the patient is found filled with liquor, he is given an emetic of apomorphia, 1/10 gr. will produce the desired results; then he is given a hot bath and put to bed, no restraint being used; the few cases in which a straight jacket or other appliances were used seemed to me to show that harm rather than good was produced. Alcohol in all its forms is stopped, and hot milk given every two hours, strychnia is given hypodermically to control the heart, and chloral, my favorite hypnotic in these cases, is sometimes used with morphia and hyoscin. The morphia, however, must be watched closely, as there are a number of patients whom it seems to aggravate. I usually order twenty grains of chloral every half hour until asleep; after the patient has rested six or eight hours, a saline cathartic is given; a hot bath, hot coffee and milk or beef tea are then given, for most of these cases have eaten little for several days. Then a capsicum mixture and the bromids are given freely.

Night and darkness are the favorite times for the demons that beset these people to appear, so it is well to have the room lighted when they are going to sleep. An attendant must be with the patient constantly, as in an absent moment he may do much harm. At night the chloral in hot milk is resumed, until the patient is asleep. With a liquid diet for a few days the patient will usually be able to help himself, with no desire, but rather an abhorrence, for any kind of stimulants. It seems to me that alcoholism is an acute poisoning, and I have never witnessed a death when withdrawal was immediate, but I am familiar with cases that died, in which alcohol was reduced gradually. The remark that delirium tremens is a result of withdrawal, rather than accumulation of alcohol, is true in accidents, surgery and pneumonia.

MAURICE DUANE BIRD, M.D.

### Trades Unionism Among Hospital Attendants.

SHERMAN, TEXAS, Jan. 6, 1904.

*To the Editor:*—In THE JOURNAL, January 2, are an editorial, "Trades Unionism Among Hospital Attendants," and a letter from Dr. V. H. Podstata, entitled "Trades Unionism Among Asylum Employes," a subject of more than ordinary importance. The statement of Dr. Podstata: "It is a well-known fact that the attendants and nurses, as well as other employes at Dunning, are under the protection of civil service, the protection being so strong as to absolutely prevent me from either hiring or discharging an employe," is a startling revelation. The forming of a union by the attendants and employes "organized on the same basis as a regular labor organization" is ominous. Hospitals for the insane can not be successfully conducted without a proper organization of officers and employes, all working together under an established set of rules. The superintendent, being responsible for the management, can not have any discipline or order when operating under such a state of affairs as now exists at Dunning. The attendants, nurses and other employes, once established in that institution, are independent of the superintendent, and obey his rules and instructions as suits their fancy.

It will be conceded that the insane are among the most unfortunate and helpless of afflicted human beings and that their condition should elicit the deepest sympathy from every one. Having been deprived of reason and of self-control, an insane person is liable to commit almost any act, and when such an act displeases a heartless attendant the patient is punished. Every year charges of cruelty to the unfortunate wards of some of these institutions are made, and in most instances they have some foundation. There can be no doubt that many acts of cruelty are committed in these asylums by brutes employed as attendants, and in many instances are not brought to light. In such a condition as we find at Dunning, almost any sort of brutal act by an impatient, quick-tempered nurse or employe may be committed, not in the dark nor behind locked doors in the ward, with the patient at his mercy, but in the very presence of the superintendent, who has no authority to discharge such employe; his hands are tied, he has no recourse, and yet he is held responsible by his superiors and by public opinion. It can easily be imagined that if such a state of affairs becomes general, the vast work and the splendid progress already made will be for naught, and we will be relegated to that unhappy period of inhuman treatment which existed when Pinel and Connelly came on the stage and began their great work of reform in this prolific field.

The position of asylum attendant, in a majority of these institutions, is more desirable and better paid, for the class of people thus employed, than any other they can command outside, and is much sought.

I am sorry to state that in many asylums the progress of excellent work is often interrupted by politics. False economy presented in a byplay at the footlights and viewed with approval by an admiring but duped constituency, often destroys the success of a bright promise. While many of our asylums are too large, with a population too numerous to permit the attainment of the greatest success, the improvement in asylum management and treatment in the last half century has been steady. But in truth there is much to be accomplished. I hope the crusade against such unhappy conditions as obtains at Dunning will be continued.

J. T. Wilson.

## Marriages.

Robert R. Berry, M.D., to Miss Sarah Palmer, both of Union, S. C., December 30.

Vinje Syver, M.D., to Miss Rebecca Halvorson, both of Henning, Minn., January 2.

John H. McCassy, M.D., to Miss Alva Bradstreet, both of Dayton, Ohio, January 6.

Karl Meltzer, M.D., to Miss Marie Ambrosius, both of the City of Mexico, December 30.

Arthur J. Herzig, M.D., to Miss Blanche Hamburger, both of New York City, December 30.

Charles Andrew Cooperrider, M.D., to Miss Helen Tippet, both of Columbus, Ohio, January 5.

B. Frank Barnes, M.D., Newark, Ohio, to Miss Olive Mabel Marsh of Shawnee, Ohio, January 6.

John H. Buschemeyer, M.D., to Miss Florence H. Byrne, both of Louisville, Ky., December 29.

Dudley Williams, M.D., Boston, to Miss Mary Isabel Jones of Wilmington, Del., January 2.

Clarence E. Beekley, M.D., Price Hill, Ohio, to Miss Louise Zugelter, at Sandusky, Ohio, January 5.

Irenaeus W. Rayburn, M.D., to Mrs. Elizabeth Scott, both of Kokomo, Ind., in Iowa, December 25.

Joseph F. Williams, M.D., Yellow Pine, Ala., to Miss Helen Rose McMain of Citronelle, Ala., December 30.

Sidney Lockhart Scott, M.D., U. S. Navy, to Miss Marian Legare Reeves of Washington, D. C., December 23.

J. R. Marmaduke Dillon, M.D., New Orleans, to Miss Laura Beckwith Lintner of Albany, N. Y., January 5.

Arthur Henry Stall, M.D., Johnson's Corners, Ohio, to Miss Edna Carrie Prange of Akron, Ohio, at Barberton, Ohio, December 24.

## Deaths.

**Hamilton Atchison West**, M.D., of Galveston, Texas, a member of the American Medical Association since 1892, and vice-president in 1898, died in New York City, December 31, aged 53 years. He was born in Kentucky in 1849, and spent his early life in the blue grass region. He studied medicine at Louisville and received his medical degree from the University of Louisville in 1872. After graduating he went to Texas and first located in Corsicana. In 1875 he became a resident of Galveston and soon became prominent as a practitioner and citizen. He was one of the original faculty of the Medical Department of the University of Texas, and until four years ago was professor of theory and practice of medicine in that institution. He possessed in a marked degree the power of imparting information to students and was extremely popular as an instructor. He made a special study of malaria, typhoid fever and yellow fever and his contributions to the literature on these subjects are authoritative. For twelve years he was secretary of the Texas State Medical Association, and at the time of the devastating flood in Galveston was made secretary of the board of health, and did noble work in that capacity. When the work of reorganization was inaugurated by the American Medical Association he took a deep interest in it, and to him is due the greatest credit for the reorganization of the medical profession of Texas. Dr. West had for a long time been suffering from nephritis, and in November he went to New York City for consultation as to the advisability of an operation, but such a measure was not considered wise. Dr. West rapidly declined and died December 31. He was buried in Galveston, January 4.

**Jacob H. Vastine**, M.D. Jefferson Medical College, Philadelphia, 1858, surgeon to the One Hundred and Thirtieth Pennsylvania Volunteer Infantry during the Civil War; a member of the Columbia Medical Society, the Pennsylvania State Medical Association and the American Medical Association, died at his home in Catawissa Pa., January 2, from Bright's disease, aged 68.

**Theophalis Gilliam Birchett**, M.D. University of Pennsylvania, Philadelphia, 1856, twice mayor of Vicksburg, Miss.; for several years superintendent of the Mississippi State Charity Hospital, Vicksburg, and once a member of the legislature, died suddenly at his home in Vicksburg, January 1, aged 68.

**Byron Hiram Daggett**, M.D. University of Buffalo, 1867, health physician of Buffalo for two terms; surgeon of the Seventy-fourth Infantry, N. G., N. Y., died at the Buffalo General Hospital, three days after an operation for the removal of gallstones, aged 61.

**Fred W. Keehl**, M.D. University of Iowa, Iowa City, 1897, a member of the county, district and state medical societies, and of the American Medical Association, died at his home in Waterloo, Iowa, January 1, from typhoid fever, after an illness of ten days.

**Gustavus Adolphus Haefner**, M.D. University of Maryland, Baltimore, 1867; a medical cadet in the Army during the Civil War; stationed at Navassa Island for 17 years, died at his home in Harlock, Md., January 3, after an illness of a year, aged 59.

**Anton Eidenbenz**, M.D. University of Giessen, Germany, 1846, of New York City, surgeon of the Eleventh New York Volunteer Infantry in the Civil War, died in St. Luke's Hospital, New York City, December 31, from pneumonia, aged 86.

**Milton A. Halsted**, M.D. Cleveland Homeopathic Medical College, 1861, surgeon of the Fifteenth New York Volunteer Cavalry in the Civil War, died at his home in Jacksonville, Ill., January 4, from pneumonia, following typhoid fever, aged 65.

**Robert McIntyre**, M.D. University of the Victoria College, Cobourg, Ont., 1862, for 30 years health officer of Hespeler, Ont., died suddenly at that place, January 4, from heart disease, while making a professional call, aged 66.

**John Scott Hughson**, M.D. Medical College of the State of South Carolina, Charleston, 1867, some-time mayor of Sumter, S. C., died at his home in that city, December 29, from heart disease, after a short illness, aged 63.

**William M. Ikeler**, M.D. University of Michigan, Ann Arbor, 1870, whose name was erroneously given as Skeler in The Journal, January 2, dropped dead at his home in Three Rivers, Mich., December 15.

**William H. Chappell**, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1874, was burned to death at his office in Oregon, Ill., January 5, aged 55. The cause of the fire is unknown.

**Daniel Voorhees Scott**, M.D. University of Louisville, 1894, secretary of the Clark County, Ind., Board of Health, died at his home in Jeffersonville, Ind., from gastritis, January 6, aged 32.

**Frank B. Powers**, M.D. University of Michigan, Ann Arbor, 1893, formerly of Lawrenceburg, Ky., died suddenly in his rooms at Racine, Wis., December 30, from heart disease, aged 33.

**Daniel Devine Cunningham**, M.D. University of Michigan, Ann Arbor, 1892, died at his home in Coldwater, Mich., January 4, from nervous collapse, after an illness of three days, aged 41.

**Fred A. Hemphill**, M.D. Hahnemann Medical College, Philadelphia, 1899, of Allegheny, Pa., died suddenly at Bisbee, Ariz., where he had gone in search of health, December 24, from heart disease.

**Theodore F. Sterling**, M.D. West Virginia, 1881, died at his home in Parkersburg, W. Va., December 29. He was surgeon of the First Virginia Volunteer Infantry during the Civil War.

**Edward Dolan**, M.D. Bellevue Hospital Medical College, 1893, died at his home in Worthington, Minn., January 2, from the effects of carbolic acid accidentally taken, aged 37.

**Henry J. Bower**, M.D. Jefferson Medical College, Philadelphia, 1862, died at his home in Myerstown, Pa., December 31, from diabetes, after an illness of 21 weeks, aged 62.

**Philip H. Grier**, M.D. University of Pennsylvania, for nine years mayor of Elizabeth, N. J., died at the New Jersey State Hospital, Trenton, January 2, aged 74.

**Adolph J. Lengel**, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, died at his home in Dallas, Texas, December 30, from apoplexy, aged 46.

**George K. McAdoo**, M.D. Western Pennsylvania Medical College, Pittsburg, 1892, died at his home in Butler, Pa., from typhoid fever, December 23, aged 37.

**William A. Clore**, M.D. Medical College of Ohio, Cincinnati, 1894, died suddenly at his home in Bullittsville, Ky., from heart disease, January 3, aged 34.

**E. J. Stilley**, M.D. Western Pennsylvania Medical College, Pittsburg, 1889, died at his home in Hope Church, Pa., January 3, after a short illness.

**Frank S. Jackson**, M.D. New York University, 1882, died at his home in Dunkirk, N. Y., January 2, from Bright's disease, after a short illness, aged 52.

**Archibald A. McDonald**, M.D. Cleveland Medical College, 1874, formerly of Florence and Rockvale, Colo., died at Sierro, N. M., recently, from septicemia.

**Silas J. Damon**, M.D. American Health College, Cincinnati, 1876, died at his home in Bridgeport, Conn., December 31, from diabetes, aged 58.

**Chester Smith**, M.D. Homeopathic Hospital College, Cleveland, 1859, died from paralysis at his home in Portland, Mich., January 2, aged 72.

**Laban S. Major**, M.D. Botanico-Medical School of Ohio, Cincinnati, 1848, died at his home in Austin, Ill., January 3, aged 81.

**John M. C. Damron**, M.D. Rush Medical College, Chicago, 1860, of Vienna, Ill., died at Hot Springs, Ark., January 2, aged 80.

**Joseph Hatton**, M.D. Medical College of Georgia, Augusta, 1853, died suddenly at his home in Grovetown, Ga., December 30.

**Edwin Freeman**, M.D. Eclectic Medical Institute, Cincinnati, 1856, died at his home in Cincinnati, January 4, aged 70.

**Joseph Papik**, M.D. Bennett College of Eclectic Medicine and Surgery, 1896, died at Chicago, Nov. 18, 1903, aged 29.

**W. F. Cherry**, M.D. University of Maryland, Baltimore, 1887, died at his home in Coakley, N. C., December 25.

**Russell R. Ramsey**, M.D. University of Nashville, 1872, died at his home in Cleveland, Tenn., December 31.

**William C. Bedford**, M.D. Chicago Medical College, 1874, died recently at his home in Tombstone, Ariz.

**William A. Cantrell**, M.D. University of Louisville, 1847, died recently at his home in Little Rock, Ark.

**John D. Walker**, M.D. Tulane University, New Orleans, 1884, of Florence, Miss., died recently.

**Frederick W. Urann**, M.D., Ohio, died at his home in Cleveland, January 1, aged 81.

**James L. Jones**, M.D., retired, died at his home in Denison, Texas, December 30.

## Miscellany.

**The Butler Typhoid Case.**—Judging from all the evidence in hand, Butler might almost as well have had no local board of health as the one which accepted the grave responsibilities of that position. In fact, perhaps, it would have been better off without than with the existing board, on which more or less reliance was placed, until it showed its utter incapacity. Finally, we wish to repeat our warning of a week ago, that hundreds of communities in this country are liable any day to be overwhelmed with the horrors of such an epidemic as that at Plymouth, or Ithaca, or Butler. These communities merely had to pay the penalties for impure water and lax sanitary administration which other communities equally neglectful have been fortunate enough to escape.—Soper in *Engineering News*.

**Treatment of Abscesses with Nitric Acid.**—M. Porosz of Budapest exclaims that if any one has once used a 2 to 5 per cent. solution of nitric acid in treatment of abscesses and buboes he will never treat them in any other way, as the effects are so satisfactory. He first evacuates the pus and then injects the solution with a urethral syringe as forcibly as possible. The abscess cavity becomes distended with the fluid which penetrates into every crevice and seems to stimulate the tissues in their work of repair after the germs in the lesion are killed by the action of the acid. In very deep buboes it may be necessary to repeat the injection daily, but healing is usually complete after two injections. The severest cases all healed in a week in his experience.—*Klinisch-therap. Wochft.*, X., No. 33, 1903.

**Phototherapy in Ophthalmology.**—H. Strebel of Munich has been applying light treatment to the eyes in some experimental research. The results indicate that the tissues of the eyes react in a different manner to the chemical rays from what is observed in the skin. The media of the eye allow the free passage of the ultra-violet rays, and he found it possible to induce a circumscribed inflammation in the retina. The iris responded to the chemical rays with hyperemia, moderate inflammation and pigmentation. It protects the tissues beneath, except when purposely excluded. He is convinced that conjunctivitis, blepharitis, eczematous keratitis and chalazion will prove amenable to phototherapy, and there is also a possibility that gonorrheal processes may be included in the list. He even suggests that direct sunlight may be utilized for tattooing the cornea. Besnamow has reported prompt healing of 5 cases of corneal ulcers after application of concentrated sunlight for two to five minutes daily, excluding the heat rays by passage through water. Strebel's iron light lamp was modified to adapt it to the eye for this research. The report of his experiments as read at the Naturforscher Congress is given in the *Klinisch-therap. Wochft.*, X, No. 45, 1903.

## Book Notices.

MODERN METHODS IN THE SURGERY OF PARALYSES. With Special Reference to Muscle-Grafting, Tendon-Transplantation and Arthrodesis. By A. H. Tubby, M.S. Lond., F.R.C.S. Eng., Surgeon to, and Lecturer on Clinical and Orthopedic Surgery and in Charge of the Orthopedic Department at Westminster Hospital; and Robert Jones, F.R.C.S.E., Honorary Surgeon to the Royal Southern Hospital, Liverpool. Illustrated by 93 Figures and 58 Cases. Cloth. Pp. 311. Price, $3.25. London: Macmillan & Co. New York: The Macmillan Co. 1903.

This little work covers the subject of the modern treatment of paralytic deformities fairly well and the well-known reputations of its authors will ensure it a favorable reception. The authors, as they say, have not given special attention to the older methods—which are all described in text-books on orthopedics—but limit those mentioned to muscle grafting, tendon transplantation and arthrodesis, which have worked an important change in the treatment of this class of cases. There are one or two important methods which they do not mention and undoubtedly did not favor, such, for example, as the surgical treatment of clubfoot advocated by Phelps, which has recently found an English adherent in Little, whose article was abstracted in The Journal, November 7, ¶8, p. 1169. The book is well illustrated and printed and is really a valuable addition to surgical literature.

Introduction to the Study of Malarial Diseases. By Dr. Reinhold Ruge, of the Imperial German Navy. Translated by P. Edgar, M.B., C. M. Edin., District Surgeon: Teluk Anson, F.M.S., and M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. Cloth. Pp. 137. Price, $2.75. London and New York: Rebman, Ltd. 1903.

This work is intended to provide, for ship surgeons and colonial physicians, a general résumé of the facts on malaria, its treatment, recognition, etc. It meets this purpose well. Our knowledge of malaria has greatly increased within the last few years, but this work is well up to date. The illustrations of the phases of the malarial parasites are good, as are also those of the malaria-bearing mosquitoes, and the graphic temperature curves throughout the text are also instructive. The staining methods are given in simple forms and the book is as a whole one that the physician in the tropics will find helpful. The English translation has been excellently done.

Fifteenth Edition of the Official Register and Directory of Physicians and Surgeons in the State of California. Cloth. Pp. 242. Revised and Published by the Medical Society of the State of California. Nov. 15, 1903. Price, $2.50.

The California Physicians' Directory is a well gotten up and arranged volume containing, beside a list of physicians, the medical law of California, fee bills, society statistics, etc., which such a work is supposed to contain. It is conveniently arranged alphabetically and by locality so that any physician in California can be immediately placed. It is one of the most complete and certainly one of the best appearing of the state volumes of its class. It is issued by the board of trustees of the state medical society and is sent free to members. To others its price is $2.50 per copy. It is well worth it to any physician or business man in the State of California or with extensive business interests there.

Radium and Other Radioactive Substances; Polonium, Actinium and Thorium, with a Consideration of Phosphorescent and Fluorescent Substances, the Properties and Applications of Selenium and the Treatment of Disease by the Ultra-violet Light. By William J. Hammer, Consulting Electrical Engineer. Cloth. Pp. 72. Price, $1.00. New York: D. Van Nostrand Co. 1903.

This book is based on a lecture delivered last spring before the American Institute of Electrical Engineers. It is a description of the fundamental principles connected with the phenomena and the properties, of radium, selenium and other radio-active substances. The author includes a description of a visit to the Finsen Institute at Copenhagen and a review of the work done there. His statements regarding the value of this method of treatment for certain conditions are exaggerated.

An Atlas of Human Anatomy. For Students and Physicians. By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna. Assisted by Alois Dalla Rosa, M.D. Translated from the Third German Edition and Adapted to English and American and International Terminology. By M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. First Section. A. The Regions of the Human Body. B. Osteology. (Figures 1 to 377 and Index.) Cloth. Pp. 161. Price, $2.50. New York: Rebman Company. 1903.

This is a handsome volume. The work can be recommended as being perhaps as complete and accurate a handbook as is at present available. The author has endeavored to make the nomenclature thoroughly intelligible, using both Latin and English terms. The illustrations are excellent.

Mammalian Anatomy. With Special Reference to the Cat. By Alvin Davison, Ph.D., ex-Fellow of Princeton University. With Over 100 Illustrations, Made by W. H. Reese, A.M., from the Author's Dissections. Cloth. Pp. 250. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1903.

The common cat is the most available animal for the anatomy student in biology. As there are plenty of cats and as their number has to be frequently curtailed they afford ample dissection material for the genuine student in this department; it is, therefore, wise to select the cat as a typical illustration of the work of comparative mammalian anatomy. Dr. Davison has given us a convenient text-book which will be of service to students.

A Manual of Hygiene and Sanitation. By Seneca Egbert, M.D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. New Third Edition, Enlarged and Thoroughly Revised. With 86 Illustrations. Cloth. Pp. 467. Price, $2.25 net. Philadelphia and New York: Lea Brothers & Co.

This third edition of Egbert's well-known work should have a generally favorable acceptance, not merely by the profession, but also by a large portion of the non-professional public who are more or less interested in sanitary matters. It is one of the best popular statements of general hygienic principles that we have and deserves a wide circulation. The present edition has been revised and includes some recent data as shown by the latest statistics, though in the main it is much like the previous editions and has not been specially enlarged.

A Surgical Handbook. For the Use of Students, Practitioners, House Surgeons and Dressers. By Francis M. Caird, M.B., F.R.C.S. Edin., Assistant Surgeon, Royal Infirmary, Edinburgh, and Charles W. Cathcart, M.B., F.R.C.S. Eng. and Edin., Surgeon, Royal Infirmary, Edinburgh. With Very Numerous Illustrations. Twelfth Edition. Morocco. Pp. 323. Price, $2.75. London: Charles Griffin & Co., Ltd. Chicago: W. T. Keener & Co. 1903.

This book contains a surprising amount of information, considering the fact that it is pocket size. The illustrations are abundant, especially those on fractures and other emergency surgery, for which the book may be chiefly recommended. An unusual addition to a work on surgery is the series of recipes for food for the sick.

Modern Surgery. General and Operative. By John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. With Over 700 Illustrations, Some in Colors. Cloth. Pp. 1099. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The fourth edition of Dr. Da Costa's surgery has been revised and much new matter added. Modern methods are pretty thoroughly included, thus bringing it thoroughly up to date.

# Association News.

Place of Session of the American Medical Association for 1905.—Attention is called to the action taken at the last session of the American Medical Association to the effect that any city wishing to invite the Association to meet at that place should present the invitation, together with all available facts concerning hotel accommodations, number and seating capacity of halls available for section meetings, intramural means of transportation, railroad facilities, etc., at least three months before the annual session of the preceding year. In accordance with the above, it is hoped that those cities which desire the Association in 1905 will send their invitations, with all information possible, on or before March 1, 1904.

M. L. Harris, M.D.,
Chairman Committee on Place of Session and Transportation,
100 State Street, Chicago.

# State Boards of Registration.

## COMING EXAMINATIONS.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

New York State Board of Regents, at New York, Albany, Syracuse and Buffalo, Jan. 26-29. Secretary, James Russell Parsons, State Capitol, Albany.

Nebraska State Board of Health, State House, Lincoln, Neb., Feb. 10-11. Secretary, George H. Brash, M.D., Beatrice.

Kansas Board of Medical Examiners, State House, Topeka, Feb. 12. Secretary, O. F. Lewis, M.D., Hepler.

Massachusetts Report.—Dr. Edward B. Harvey, Boston, secretary of the Board of Registration in Medicine for the State of Massachusetts, reports the written examinations held at Boston, Nov. 10-11, 1903, as follows: Subjects, 9; questions, 60; percentage required, 70; candidates, 59; passed, 50; failed, 9.

PASSED.

College of Physicians and Surgeons, Boston, (1903) 75, 70.5, 70.
Boston University, (1903) 70.3, 75.6, 79.5, 79.8.
Baltimore Medical School, (1903) 70, 78.5, 71.1.
Tufts Medical School, (1903) 71.1, 71.4, 10.1.
College of Physicians and Surgeons, New York, (1903) 72.3, 82.4.
College of Physicians and Surgeons, Baltimore, (1903) 71.5, 78.8.

Harvard Medical School, (1901) 70.6, 78, 80.5, (1902) 73.3, 75.5, 73.6, (1903) 75.5, 83.7, 76.5, 74, 77.5.
University of Michigan, (1903) 75.4, (1901) 74.8.
University of New York, (1881) 70.3, (1880) 70.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| University of Louisville | (1901) | 70.5 |
| Southern Homeopathic College | (1903) | 70.0 |
| University of Naples | (1900) | 82.1 |
| Jefferson Medical College | (1903) | 71.8 |
| Imperial Alexanderian University, Finland | (1896) | 78.3 |
| Johns Hopkins Medical School | (1900) | 80.0 |
| Maryland Medical College | (1901) | 76.5 |
| Laval University | (1901) | 79.3 |
| Syracuse University | (1902) | 80.2 |
| McGill University | (1901) | 78.7 |
| American Medical Missionary College | (1903) | 73.6 |
| Medical School of Maine | (1901) | 76.5 |
| Kentucky School of Medicine | (1903) | 75.1 |
| University of Maryland | (1903) | 74.0 |
| University of Munich | (1903) | 72.8 |
| New York Homeopathic Medical College | (1898) | 85.2 |
| Yale Medical School | (1898) | 84.0 |
| Western Reserve | (1885) | 71.0 |

FAILED.

Physicians and Surgeons, Baltimore, (1902) 59.6, (1903) 66.
Laval University, (1903) 62.6, (1901) 66.1.

| | | |
|---|---|---|
| University of Vermont | (1898) | 65.1 |
| Baltimore Medical | (1903) | 66.6 |
| Baltimore University | (1903) | 43.0 |
| Pulte Medical | (1902) | 57.5 |
| Kentucky School of Medicine | (1903) | 55.3 |

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# The Public Service.

## Army Changes.

Memorandum of changes of stations and duties of medical officers for the week ending Jan. 9, 1904:

Kulp, John S., asst.-surgeon, relieved from duty at Fort McDowell, Cal., and ordered to assume the duties of attending surgeon and examiner of recruits at Philadelphia.

Kieffer, Charles F., asst.-surgeon, relieved from duty as attending surgeon and examiner of recruits, to take effect January 1, and will proceed to Fort D. A. Russell, Wyo., for duty.

Bushnell, Geo. E., surgeon, detailed to represent the Medical Department of the Army at the Tuberculosis Exposition at Baltimore, Jan. 25 to 31, 1904.

Stiles, H. R., asst.-surgeon, paragraph 12, S. O. 110, War Department, directing him to proceed to San Francisco, is revoked.

De Shon, George D., asst.-surgeon, relieved from duty at Boston, to take effect February 1, and ordered to Fort Des Moines, Iowa, for duty.

Wales, P. G., surgeon, relieved from duty at Fort Assinniboine, Mont., and ordered to San Francisco, for transportation to Manila, P. I.

Richardson, Geo. H., asst.-surgeon, resignation took effect January 1.

Greenleaf, H. S., asst.-surgeon, promoted captain and asst.-surgeon, U. S. Army.

Johnson, R. W., surgeon, will, in addition to present duties in connection with the Louisiana Purchase Exposition, St. Louis, supervise the sanitary conditions on grounds until April 1, 1904.

Polhemus, A. S., surgeon, leave extended two months.

Long, Charles J., contract dental surgeon, now in the Philippines, has been granted three months' leave of absence, and permission to return to the United States by the Suez route.

Springwater, Samuel A., contract surgeon, now at Chicago on two months' leave of absence from the Division of the Philippines, has been granted an extension of one months' leave.

Enders, William J., contract surgeon, will go from Fort Delaware, Del., to Fort Morgan, Ala., for duty.

Stearns, Charles H., contract surgeon, now at Nevada, Mo., on two months' leave of absence, has been relieved from further duty in the Division of the Philippines, and ordered to Fort Monroe, Va., for duty.

## Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending January 9, 1904:

Beyer, H. G., surgeon, on completion of board duty in connection with barracks ordered to Boston for special temporary duty, and thence to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Peck, A. E., asst.-surgeon, ordered to the *Pensacola*.

Elmer, M. K., asst.-surgeon, detached from the *Pensacola* and ordered to the *Hancock*.

## Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the twenty-one days ended Jan. 7, 1904:

Mead, F. W., surgeon, granted leave of absence for one day, December 26.

White, J. H., surgeon, bureau letter granting leave of absence for five days from December 17, amended to read five days from December 19.

Magruder, G. M., surgeon, granted leave of absence for two days from December 30.

Wertenbaker, C. P., Geddings, H. D., and Perry, J. C., P. A. surgeons, to report to chairman of examining board at Washington, D. C., January 18, for examination to determine their fitness for promotion to the grade of surgeon.

Rosenau, M. J., P. A. surgeon, detailed to represent the service at the meeting of the Society of American Bacterioologists at Philadelphia, December 29 and 30.

Wickes, H. W., P. A. surgeon, granted leave of absence for fifteen days from December 24.

Von Ezdorf, R. H., P. A. surgeon, to report to director of Hygienic Laboratory for temporary duty December 21, to proceed to the City of Mexico for special temporary duty December 31.

Foster, M. H., P. A. surgeon, granted leave of absence for four days from January 5.

Richardson, T. F., asst.-surgeon, granted leave of absence for one month from January 1.

Fox, Carroll, asst.-surgeon, granted leave of absence for five days from October 31, under paragraph 191 of the regulations.

McClintic, T. B., asst.-surgeon, granted leave of absence for seven days from December 26, under paragraph 191 of the regulations.

Francis, Edward, asst-surgeon, to report to the director of the Hygienic Laboratory for duty.

Stimson, A. M., asst.-surgeon, granted extension of leave of absence for two days from December 15.

Ward, W. K., asst.-surgeon, granted leave of absence for one day, December 17, under paragraph 191 of the regulations.

Smith, F. C., asst.-surgeon, relieved from duty at Immigration Depot, New York, and directed to proceed to Detroit and report to medical officer in command for duty and assignment to quarters.

Steger, E. M., asst.-surgeon, to proceed to Clarksburg, W. Va., for special temporary duty.

Gibson, L. P., A. A. surgeon, granted extension of leave of absence on account of sickness from November 20 to December 10.

Hume, Lea, A. A. surgeon, granted leave of absence for twelve days from December 19.

Tuttle, Jay, A. A. surgeon, granted leave of absence for ten days from December 21.

Brock, G. H., pharmacist, on being relieved from duty at Detroit, directed to proceed to Delaware Breakwater quarantine station and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist L. C. Spangler.

Goodman, F. S., pharmacist, relieved from temporary duty at Laredo, Texas, and directed to rejoin station at Norfolk, Va.

Allen, G. C., pharmacist, to proceed to Louisville, Ky., for temporary duty.

Iltis, G. W., pharmacist, relieved from duty at San Francisco and directed to proceed to Detroit and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist G. H. Brock.

Spangler, L. C., pharmacist, on being relieved from duty at Delaware Breakwater quarantine station, to proceed to Boston and report to medical officer in command for duty and assignment to quarters.

Bierman, C. H., pharmacist, granted leave of absence for eight days from December 22.

Irwin, Fairfax, surgeon, and Korn, W. A., asst.-surgeon, detailed as members of Revenue Cutter Service retiring board, to be convened at Philadelphia.

Rosenau, M. J., P. A. surgeon, four days' leave of absence from Jan. 1, 1904, under paragraph 189 of the regulations.

Amesse, J. W., asst.-surgeon, granted leave of absence on account of sickness for seven days.

Ashford, F. A., asst.-surgeon, relieved from duty at Chicago and directed to proceed to Milwaukee and assume temporary command of the service at that port.

### BOARDS CONVENED.

Board convened at the Marine Hospital, Stapleton, N. Y., January 4, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon Preston H. Ballhache, chairman. P. A. Surgeon A. C. Smith, recorder.

Board to meet at Washington, D. C., January 18, for the purpose of examining certain officers to determine their fitness for promotion to the grade of surgeon. Detail for the board: Asst.-Surgeon-General A. H. Glennan, chairman. Asst.-Surgeon-General L. L. Williams. Asst.-Surgeon-General G. T. Vaughan, recorder.

Board convened at the Marine Hospital, Chelsea, Mass., Jan. 11, 1904, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman. Asst.-Surgeon W. C. Rucker, recorder.

Board to meet at Washington, D. C., for the purpose of considering revision of medical books on contract and preparation of list of professional books, etc. *Detail* for the board: Asst.-Surgeon-General L. L. Williams, chairman. Asst.-Surgeon-General H. D. Geddings. Asst.-Surgeon A. J. McLaughlin, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 8, 1904:

### SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 21-27, 7 cases.

Illinois: Chicago, Dec. 26-Jan. 2, 3 cases.

Iowa: Dubuque, Dec. 26-Jan. 2, 1 case.

Louisiana: New Orleans, Dec. 26-Jan. 2, 1 case.

Maine: Dec. 31, Athens, present; Brighton, present; Madawaska County, 39 cases.

Maryland: Baltimore, Dec. 26-Jan. 2, 1 case.

Michigan: Dec. 26-Jan. 2, Flint, 1 case; Port Huron, 2 cases

Missouri: St. Louis, Dec. 19-Jan. 2, 6 cases.

New Hampshire: Manchester, Dec. 26-Jan. 2, 1 case.

New Jersey: Dec. 26-Jan. 2, Camden, 5 cases; Trenton, 2 cases.

New York: Buffalo, Dec. 21-Jan. 2, 12 cases; New York, Dec. 26-Jan. 2, 1 case, 1 death.

Ohio: Dayton, Dec. 26-Jan. 2, 2 cases.

Pennsylvania: Dec. 26-Jan. 2, Altoona, 1 death at county hospital; Erie, 2 cases; McKeesport, 3 cases; Philadelphia, 74 cases, 11 deaths; Pittsburg, 17 cases, 4 deaths; Reading, 1 case; Johnstown, Dec. 19-Jan. 2, 4 cases, 1 death.

Tennessee: Dec. 26-Jan. 2, Memphis, 8 cases, 2 deaths; Nashville, 1 case.

Utah: Salt Lake City, Dec. 26-Jan. 2, 3 cases, all imported.

Wisconsin: Milwaukee, Dec. 26-Jan. 2, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 5-12, 21 cases.

Brazil: Pernambuco, Nov. 1-15, 20 cases; Rio de Janeiro, Nov. 29-Dec. 6, 58 cases, 50 deaths.

Great Britain: Dec. 12-19, Birmingham, 1 case; Liverpool, 1 case; London, 6 cases; Manchester, 4 cases; New Castle, 5 cases.

Italy: Catania, Dec. 10-17, 3 deaths.

Russia: Odessa, Dec. 5-12, 2 cases; Warsaw, Nov. 7-14, 10 deaths.

Turkey: Smyrna, Nov. 29-Dec. 13, 13 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Dec. 30-Jan. 2, 2 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Nov. 22-Dec. 6, 1 case.

Ecuador: Guayaquil: Dec. 6-12, 1 death.

Mexico: Ciudad Victoria, Dec. 12-19, 3 cases, 2 deaths; Dec. 13-19, Merida, 6 cases; Tehuantepec, 1 case, 1 death.

PLAGUE.

Brazil: Rio de Janeiro, Nov. 29-Dec. 6, 27 cases, 22 deaths.

China: Hongkong, Nov. 21-27, 3 deaths.

Egypt: Nov. 28-Dec. 4, 3 cases, 3 deaths.

India: Bombay, Dec. 1-8, 51 deaths; Calcutta, Nov. 28-Dec. 5, 14 deaths; Karachi, Nov. 29-Dec. 6, 6 cases, 6 deaths; Madras, Nov. 28-Dec. 4, 1 death.

Japan: Yokohama, Nov. 21-28, 1 case, 1 death.

CHOLERA.

India: Calcutta, Nov. 28-Dec. 5, 42 cases; Madras, Nov. 20-Dec. 4, 3 deaths.

Turkey in Asia: Nov. 30, 89 cases.

## Medical Organization.

### California.

Stanislaus County Medical Society.—A meeting of the physicians of the county was held at Modesto, December 5, at which the first steps toward organization on the standard plan were taken. Dr. Benjamin F. Surrhyne was elected chairman, and Dr. George F. Bradbury secretary, both of Modesto.

Butte County Medical Society.—This society was organized on the standard plan at Chico, December 19, and the following officers were elected: Dr. Oscar Stansbury, Chico, president; Dr. Eli A. Kusel, Oroville, vice-president; Dr. D. H. Moulton, Chico, secretary and treasurer; Dr. Oscar Stansbury, Chico, delegate to the state society, and Dr. Buchanan Caldwell, Biggs, alternate.

Santa Cruz County Medical Society.—In response to an invitation from Dr. Phillip M. Jones, San Francisco, representing the state society, the physicians of the county met at Santa Cruz, December 22, and organized a county society on the standard plan, with the following officers: Dr. Exeter P. Vaux, Santa Cruz, president; Dr. Spencer C. Rodgers, Watsonville, vice-president; Dr. Saxon T. Pope, Watsonville, secretary; Dr. Ira C. Bush, Santa Cruz, treasurer; Drs. James F. Christal, Santa Cruz; William A. Phillips, Santa Cruz, and Nat. Green, Watsonville, censors; Dr. Saxon T. Pope, Watsonville, delegate to the state society, and Dr. Willis R. Congdon, Santa Cruz, alternate.

### Illinois.

Putnam County Medical Society.—Dr. William O. Ensign, Rutland, councilor for the Second District, met the physicians of the county at McNabb, November 28, and assisted them in organizing a county society on the standard plan, with Dr. Osker F. Taylor, Magnolia, president, and Dr. Edgar A. Hall, Florid, secretary.

### Indian Territory.

Pickens County, Chickasaw Nation Medical Society.—The physicians of this county have organized a medical society.

Indian Territory (Western District) Medical Association.—At the meeting held in Muskogee, December 9, the society decided to be governed by the rules of the American Medical Association.

### Indiana.

Kankakee Valley District Medical Association.—At the winter session of the Kankakee Valley Medical Society, held in Hammond, December 8, it was voted that the organization conform to the rules of the American Medical Association adopted by the Indiana State Medical Society. The following vice-presidents for counties in the district were appointed: Lake County, Dr. H. E. Sharrer, Hammond; Porter County, Dr. Joseph C. Carson, Valparaiso; La Porte County, Dr. Frederick A. McGrew, La Porte; St. Joseph County, Dr. Charles A. Daugherty, South Bend; Starke County, Dr. L. Dow Glazebrook, Knox; Marshall County, Dr. Novitas B. Aspinall, Plymouth; Newton County, Dr. Theodore E. Collier, Brook; Jasper County, the late Dr. Israel B. Washburn, Rensselaer; Pulaski County, Dr. George W. Thompson, Winamac; Fulton County, Dr. George E. Hoffman, Rochester; Cass County, Dr. Nelson W. Cady, Logansport, and Carroll County, Dr. William F. Sharrer, Delphi.

### Iowa.

Webster County Medical Society.—This society has endorsed the state society reorganization on the standard plan.

Muscatine County Medical Society.—At an informal meeting held at Muscatine, December 11, the society, after reading the new by-laws, with the clauses objected to by three county societies, agreed by mutual consent to stand by and uphold the state society.

Clinton County Medical Society.—At the annual meeting held in Clinton, January 5, Dr. George A. Smith was elected president; Dr. Herbert R. Sugg, vice-president, and Dr. E. L. Martindale, secretary and treasurer, all of Clinton. The society voted to incorporate, and postponed the discussion of the proposed affiliation with the state society until the April meeting.

Adair County Medical Society.—At a meeting of physicians held in Greenfield, December 17, a county society was formed on the standard plan, with the following officers: Dr. Thomas W. Mulhern, Greenfield, president; Dr. John E. Howe, Greenfield, vice-president; Dr. Pierre McDermid, Fontanelle, secretary, and Dr. James A. Harper, Jr., Greenfield, delegate to the state society.

Union County Medical Society.—Dr. Edward E. Dorr, Des Moines, councilor for the Seventh District, has organized this society, at Creston, on the standard plan, with the following officers: President, Dr. Moses B. Reed, Cromwell; vice-president, Dr. Benjamin F. Gillmore, Creston; secretary and treasurer, Dr. Joseph P. Claybaugh, Creston, and delegate to the state society, Dr. H. G. Lynch, Spaulding.

Plymouth County Medical Society.—The physicians of the county met at Lemars, December 12, and with the aid of Dr. Edward Hornibrook, Cherokee, councilor for the Eleventh District, organized a society on the standard plan, with the following officers; Dr. Milton W. Richey, Lemars, president; Dr. Alfred H. Jastrom, Jensen, vice-president; Dr. G. Henry Mainmen, Lemars, secretary; Dr. Howard J. Wright, Kingsley, treasurer, and Drs. L. W. Wuesthoff, Struble, Mary A. Breen, Lemars, and John H. Rippey, Kingsley, censors.

### Maryland.

Queen Anne County Medical Society.—The physicians of the county met at Centerville, December 9, and organized a county society, of which Dr. James Bordley was elected president, and Dr. James M. C. Cockran, secretary, both of Centerville.

Somerset County Medical Society.—Under the auspices of the Medical and Chirurgical Faculty of Maryland, represented by Drs. Henry O. Reik, Baltimore, and Brice W. Goldsborough, Cambridge, a county society was organized at Princess Anne, December 12, with a charter membership of 9. The following officers were elected: Dr. Charles W. Wainwright, Princess Anne, president; Dr. William F. Hall, Crisfield, vice-president; Dr. Martin W. Goldsborough, Princess Anne, secretary, and Dr. Ralph L. Hoyt, Oriole, treasurer.

Montgomery County Medical Society.—Dr. Thomas A. Ashby, Baltimore, met with the physicians of Montgomery County at Rockville, December 11, delivered an address and assisted in the organization of a county society on the standard plan, with the following officers: President, Dr. Roger Brooke, Sandy Springs; vice-president, Dr. Horace B. Haddox, Gaithersburg; secretary-treasurer, Dr. John L. Lewis, Bethesda, and censors, Drs. Edward Anderson, Rockville, W. Thawley Pratt, Potomac, and Elisha C. Etchison, Gaithersburg.

### Missouri.

Audrain County Medical Society.—This society has been chartered by the state association, with an initial membership of sixteen, and the following officers: Dr. Robert W. Berry, Young's Creek, president; Dr. Charles T. Varnon, Mexico, vice-president, and Dr. C. A. Bothwell, secretary.

Howell County Medical Association.—The physicians of the county met at West Plains recently and organized a county society, with the following officers: Dr. James C. B. Dixon, West Plains, president; Dr. Junius W. Bingham, Pottersville, vice-president; Dr. Henry C. Shuttee, West Plains, secretary, and Dr. Henry A. Thompson, Lanton, treasurer.

### Mississippi.

Newton County Medical Association.—Physicians of the county met at Newton, December 14, and organized a county society, all but six of the physicians of the county being present. Dr. G. H. McNeill, Newton, was elected president; Dr. S. Barto Henton, Decatur, vice-president, and Dr. A. Lee Monroe, Lawrence, secretary and treasurer. A committee, consisting of Drs. G. H. McNeill, Newton; John B. Bailey, Conshatta; A. Lee Monroe, Lawrence, W. S. Norris, Stamper; John S. Adams, Chunkey's Station, and I. W. Cooper, Newton, was appointed to draft a constitution and by-laws.

### North Carolina.

Wilkes County Medical Society.—The physicians of the county met at Wilkesboro, December 9, and organized a county society, with the following officers: Dr. John W. White, Wilkesboro, president; Dr. James M. Turner, Wilkesboro, vice-president, and Dr. M. V. Burrus, secretary and treasurer.

### Ohio.

Carroll County Medical Society.—This society adopted a new constitution and by-laws at its meeting in Carrollton, December 14. Dr. John R. Williams, Carrollton, was elected president, and Dr. James J. Hathaway, Carrollton, secretary and treasurer.

### Pennsylvania.

West Philadelphia Branch of the Philadelphia County Medical Society.—This society was organized December 26. Dr. Milton B. Hartzell was elected chairman, and Dr. Charles A. E. Codman, secretary.

### South Dakota.

South Dakota (Seventh District) Medical Society.—The organization of this society was perfected at a meeting of physicians at Sioux Falls, December 10. The following officers were elected: Dr. Stephen Olney, president; Dr. Arthur H. Tufts, vice-president; Dr. John R. Hawkins, secretary, and Dr. Cora W. Carpenter, treasurer, all of Sioux Falls.

### Wisconsin.

Rock County Medical Society.—This society was organized last month at Janesville on the standard plan, the following officers being elected: President, Dr. Ernest C. Helm, Beloit; vice-president, Dr. Quincy O. Sutherland, Janesville; secretary, Dr. George W. Fifield, Janesville; treasurer, Dr. Samuel B. Buckmaster, Janesville, and censors, Drs. Isaac Buckeridge, Beloit; John F. Pember, Janesville, and James Mills, Janesville.

Jefferson County Medical Society.—About twenty physicians of the county met at Jefferson, December 8, perfected the permanent organization of a county society, and elected the following officers: Dr. William W. Reed, Jefferson, president; Dr. William F. Whyte, Watertown, vice-president; Dr. C. E. Lauder, Johnson Cieek, secretary and treasurer, and Drs. Carl R. Feld, Watertown; William A. Engsberg, Lake Mills, and Urban P. Stair, Fort Atkinson, censors

## Society Proceedings.

### MEDICAL SOCIETY OF THE CITY AND COUNTY OF DENVER.

*Annual Meeting, held in Denver, January 5.*

Dr. H. W. McLauthlin read a "Memorial Paper on the Life of Dr. Whitehead," in which he pointed out the great services he rendered the medical profession of Denver as an anatomist, surgeon and sanitarian. Special attention was paid to Dr. Whitehead's operation for cleft palate and his invention of several ingenious instruments.

Dr. George B. Packard, in his presidential address, dwelt on the benefits of the reorganization of the state and county societies, and suggested that the society emulate the example of the St. Paul society in building up a medical library, and in striving to possess a home of its own.

#### New Officers.

These officers were elected: Dr. S. D. Hopkins, president; Dr. W. J. Rothwell, vice-president; Dr. E. J. Rothwell, treasurer; Dr. L. B. Lockard, recording secretary; censors: Drs. S. D. Van Meter, L. N. Macomber, I. B. Perkins, Edward Jackson, and J. M. Burns; delegates to state society: Drs. G. B. Packard, Clarence L. Wheaton and John Chaše. The following committee was appointed to consider the suggestion of the president in reference to a library and home: Drs. C. D. Spivak, J. M. Blaine, Edward Jackson, Donald Kennedy and L. B. Lockard.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

*Special Meeting, held Jan. 7, 1904.*

#### The Results of the Treatment of Congenital Hip Dislocation.

A special meeting was held at the Children's Hospital for the purpose of hearing the report of the orthopedic staff of the hospital signed by Drs. Edward H. Bradford, Robert W. Lovett, E. G. Brackett, John Dane and Augustus Thorndike on the treatment of congenital hip disease in children. A large number of physicians and surgeons who last year witnessed the operations of Dr. Adolf Lorenz were present on invitation to hear the first official report of the success of those operations. The report was a provisional one, and covered 138 cases treated in the hospital during the last twenty years. There has been a steady gain in the success of the surgeons. Thus, while in the period previous to 1896 all the 26 cases treated were failures, in 1896-1902 out of 54 cases treated 12 were successful, and only 13 are known failures; 1902 included those cases treated by Dr. Lorenz, and of 22 cases treated 11 were successful, 4 failures, 4 showed improvement, and 3 results are not known; 1903 was a distinct advance on this even, for 33 cases were treated and 24 are successful, 6 failures and 3 results unknown. This gain is attributed in great part to the use of the machine devised by Ralph W. Bartlett, a young Boston lawyer, for of the 24 successful cases 18 were manipulated by its aid. But one case was treated surgically by incision this last year, and that was unsuccessful. Of the six cases treated by Dr. Lorenz, five were successes, the sixth being a child 9 years old, for whom the surgeon did not expect success.

The report dealt with the great advance made in anatomic knowledge of the parts, to which the staff of the Children's Hospital have contributed much, and the aid to be derived from the use of the *x*-ray, which now makes accurate diagnosis possible, both before and after treatment.

In all the cases treated there has not been a single surgical disaster or fatality. The conclusions drawn are that congenital hip disease is curable. It should be treated in infancy or early childhood by manipulative methods, but even at advanced years, if less than 10, the manipulative or mechanical method should first be tried, and if unsuccessful, the surgical operation should follow. This can be performed to-day with greater hope of success because of the great increase in anatomic knowledge. The exact limits for the manipulative method can only be determined by time.

At the request of the staff a committee consisting of Drs. David W. Cheever, J. Collins Warren, Charles F. Painter of Boston, and Dr. V. P. Gibney of New York was appointed by the society to verify the data and pass on the conclusions of the report.

### SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Sixteenth Annual Session, held in Atlanta, Ga., Dec. 15-17, 1903.*

*(Concluded from page 118.)*

#### The Technic of the Vaginal Method.

Dr. J. Riddle Goffe, New York, said that in his own hands the scope of the operation was no longer confined, on the one hand, to simple puncture and drainage, nor limited, on the other, to the radical operation of hysterectomy. All the intermediate procedures that were called for by the many pathologic conditions found in a woman's pelvis found their most direct route through the vagina.

There were two vaginal incisions through which the pelvic cavity could be reached; one, posterior and the other anterior to the cervix. The latter afforded the greater facilities for operative procedures, and the one on which he depended almost exclusively. The posterior incision is frequently used in connection with it to secure drainage and in some cases for manipulation. The method lent itself to every form of conservative work on the uterus and its appendages that had been suggested in the trend of recent modern gynecology. The successful application of it required patience, experience and skill, but when once the profession had been convinced of its superiority he believed it would grow in favor.

### Tubercular Ostitis of the Knee.

Dr. A. R. Shands, Washington, D. C., said that the management of a case of white swelling could be embraced in the terms immobilization and protection in any and all stages of the disease. When it became necessary to incise and drain a joint, it should be done thoroughly and good drainage should be kept up just as long as there was any discharge. When the infection of the joint was due to an ostitis that was near the surface of the ends of the bone, often the diseased bone sloughed away, and when it could be easily located and curetted, most excellent results were obtained. The operation of excision of the knee should never be done in children except in extreme cases, and even then the author believed that amputation would be best, for an artificial leg is more useful than such a leg as a child would have after excision.

### The Differential Diagnosis of Syphilis and Cancer of the Vulva.

Dr. Barton Cooke Hirst, Philadelphia, reported the case of a woman, 28 years of age, single, who had never been pregnant. She denied ever having led an immoral life, and the possibility of venereal infection. Ten years ago she was operated on in the Pennsylvania Hospital for hemorrhoids and fissure in ano. The wound of the operation did not heal properly. More than a year ago the patient noticed an ulcerated condition of the vulva, and a short time afterward incontinence of feces, followed soon by incontinence of urine. For two years past there had been amenorrhea. On a specular and digital examination, a *fistula between the fossa navicularis and the rectum* was discovered. The whole urethra was gone; there were three little tubercles at the neck of the bladder, these being all that was left of it. The vagina above the neck of the bladder was perfectly healthy. The cervix was normal except that it was atrophic, as was the whole uterus. The case, at first sight, looked like an inoperable epithelioma of the vulva, and was pronounced to be so by one of the most experienced dermatologists in Philadelphia. But there was none of that extensive infiltration and elevation of the skin surface around the edges of the ulceration, such as was seen in an example of extensive epithelioma of the vulva, considerably advanced, but not yet inoperable. Moreover, numerous pieces of tissue from different places in the ulcerated area showed nothing characteristic of cancer. There was everywhere the most extensive round-cell infiltration and necrosis of tissue. The microscopic study, as well as the macroscopic appearance suggested syphilis in the ulcerated gummatous form. Accordingly the patient was put on specific treatment in spite of her negative history. The treatment was given up within a week, as the patient was severely ptyalized.

Lupus next suggested itself. On two separate occasions, under anesthesia, twelve or fifteen pieces of diseased tissue were removed for microscopic examination. No tubercles nor bacilli could be discovered anywhere. Inoculations in animals were negative. The urine contained no tubercle bacilli. The bladder itself was healthy. There was a response to the tuberculin test, but the woman had a patch of consolidation in the apex of one lung. Meanwhile the patient was given *x*-ray treatments every other day for eight to ten minutes. Within three weeks the external ulceration was healed. Two weeks later the rectovaginal fistula spontaneously closed under the continuance of the *x*-ray applications. Nothing remained of the original disease except the absence of the urethra and an elephantiasic condition of the labia majora. The former had been corrected by urethroplasty. He had not yet joined the new urethra to the opening in the bladder, so that the establishment of continence of urine was still doubtful, but he was quite hopeful of making the patient eventually entirely comfortable.

### Symposium on Appendicitis.

Dr. George R. Dean, Spartansburg, S. C., considered appendicitis a surgical disease, and said that when it was once discovered there was only one proposition to be made, namely, to urge operation at the earliest possible moment.

Dr. J. M. Baldy, Philadelphia, said that his experience had led him to differ with those gentlemen who held that appendicitis generated pelvic inflammatory disease, or that pelvic inflammatory disease caused appendicitis. The two diseases were rarely associated, and only then as a coincidence. He had not seen a case in which, having found pus in a fallopian tube, he had found pus in the involved vermiform appendix; nor had he found a perforating or gangrenous appendix in such a case. On the other hand, where he had found a perforated or gangrenous vermiform appendix, or one which contained pus, either in its cavity or enclosed in its walls, he had never noticed pus in a fallopian tube or ovary. Should he find such conditions, it would appear to him that the two diseases existed as a coincidence and independently of each other, as far as direct infection from one to the other was concerned.

Dr. I. S. Stone, Washington, D. C., said: First, one should consider every delayed case with anxiety lest there should be retroperitoneal infection. Second, one should be careful to give a guarded prognosis in every case of appendicitis ushered in by or complicated by chills or any symptoms of sepsis. Third, if operating in such cases, one should consider retroperitoneal infection as already started, and act accordingly. The discovery and proper treatment of such infection was as important as the usual intraperitoneal technic.

Dr. Robert T. Morris, New York, said that the surgeon could not do good work, particularly in abdominal surgery, if he began his work with incisions that were too short, but after one had acquired a certain amount of skill in technic he could return to the shorter incisions. With long incisions there is more shock; more adhesions; first, because the exposure of the peritoneum through a long incision excites greater inflammatory reaction, and, second, the longer the incision, the greater the danger of infection from the aerial bacteria.

### The Significance of and Management of Paralysis of the Bowel.

Dr. George S. Brown, Birmingham, Ala., expressed the view that paralysis of the bowel in the presence of inflammation of the peritoneum was to be regarded, not as a pathologic condition to be combated, but rather as Nature's way of allowing the plastic exudate to form adhesions, and confine the infection. He held that it was not the paralysis, but the overdistention of the bowel, that should be fought.

It seemed to him that if the Ochsner plan of treatment would tide over a patient with a gangrenous appendix, such a patient could have a much better chance if that appendix were removed, and to the Ochsner treatment were added the tight abdominal binder with water to relieve thirst and wash out the stomach, if there was vomiting, together with opium *ad libitum*, to relieve pain and keep down peristalsis.

In a total experience of 90 cases of appendicitis he had 66 pus cases, 24 of which had been treated by the plan of starvation, except as to water, prolonged irrigation of the stomach before leaving the table, a tight abdominal binder and opium. Eighteen of these patients had more or less diffuse peritonitis, and 12 of these were so severe that they had to be extensively disemboweled in order that adhesions could be broken up and septic material wiped away. Only 2 of these died. These might have recovered had they been tided over without operation, but as they were both *in extremis* at the time, probably the only thing saved would have been the reputation of the surgeon. Of 5 other deaths occurring in the 90 cases, 2 were due to subdiaphragmatic abscess rupturing into the lung, 1 to regurgitant vomiting, due to the presence of a large quantity of castor oil in the bowel which was not washed out, and 2 early cases where abscesses that had already set up a diffuse peritonitis were merely incised.

### Cases of Intestinal Obstruction Treated by Resection.

Dr. W. H. Doughty, Jr., Augusta, Ga., reported three successful cases of resection of intestine for obstruction due to gangrenous umbilical hernia, volvulus, and intussusception respectively. One of the cases was unique, so far as the author knew, in that the strangulated loop of intestine in the hernia was a part of a greater segment which had been strangulated by volvulus. It was likely that the descent of the herniated coil took place shortly after the occurrence of the volvulus, and its strangulation was occasioned by the congestion which followed the latter.

The almost invariable fatality which attended the operation he attributed to the toxemia that was induced by gangrene of the intussusceptum. In one case, however, which he outlined, in spite of the unmistakably gangrenous patches on the intussuscipiens and involving even the mesentery, the patient, though far from being in a satisfactory condition, stood the operation fairly well, rallied promptly from the depression which attended it, and recovered without interruption.

### Free Growths in the Tunica Vaginalis.

DR. EDWARD A. BALLOCH, Washington, D. C., reported the case of a colored boy, 16 years of age, who, during eight years, had had develop a painless enlargement in the upper part of the right of the scrotum. Examination showed a scrotum reaching nearly to the knees and measuring twenty-one inches in circumference at its largest point. Both testicles and both cords could be made out, and felt normal as to size, shape and consistence. There was no fluid in the scrotum, but a peculiar gelatinous, flabby feeling of the scrotal tissue. Three separate tumors were felt, freely movable in relation to cord, testis, and scrotal tissues.

The diagnosis of fibroid growths in the tunica vaginalis was based partly on the history of a slow, painless growth, and absence of ulceration and fistulæ, excluding cancer, syphilis and tuberculosis, and partly on the physical characteristics of the growths, together with a keloid behind the right ear which was interpreted as indicating a tendency to fibromatosis in the patient.

Operation showed the tunica greatly enlarged and thickened, and converted into a gelatinous mass. The upper tumor ran into the inguinal canal and was attached there by a pedicle. The other two showed no distinct points of attachment. The tumors weighed thirty-eight ounces, and the tunica twenty ounces.

The growths were soft fibromata, with areas of fatty and myxomatous degenerations. The testicle also showed areas of beginning myxomatous degeneration. It was concluded that the growths had their origin in the subserous connective tissue.

Examination of the literature showed but one case resembling the one reported, although there were several reports of minute fibrous growths on the tunic following hydrocele treated by the injection of iodin.

### Colloid Carcinoma of the Rectum with Excision by the Combined Vaginal and Inguinal Routes.

DR. J. HORACE WHITACRE, Cincinnati, Ohio, reported a case of colloid carcinoma which had developed as a hard, uniform thickening of the entire circumference of the rectum and about six inches in length. The great predominance of fibrous tissue, the uniform involvement of a long segment of the bowel, and the appearance of minute nodules resembling miliary tubercles in the primary tumor of the rectum all spoke for hyperplastic tuberculosis of the bowel. A third point worthy of mention was the exceedingly rapid development of the solidly carcinomatous ovarian tumors from half a dozen minute miliary metastases on the peritoneal surfaces of each. These tumors were friable and almost jellylike, as were all of the metastases, whereas the original tumor was as hard as cartilage.

### Resuscitation of Animals Apparently Dead.

DR. GEORGE W. CRILE, Cleveland, Ohio, read a short paper on this subject, giving a summary of experimental data. When asphyxia caused failure of the heart and respiration, vigorous artificial respiration usually restored their function when administered within a few seconds. It was effective in an inverse ratio to the time that had elapsed; it was rarely effective after forty seconds. Animals apparently dead for periods up to fifteen minutes were resuscitated by the combined effect of artificial respiration, rhythmic pressure on the heart, and the infusion of adrenalin. When the blood pressure had risen to thirty or more mm. Hg., the heart began to beat and the blood pressure was rapidly restored. The return of respiration was signaled by a short, almost imperceptible movement of the diaphragm, the respiratory action becoming gradually stronger and more frequent. The conjunctival reflex returned early. Some of the experiments failed on account of too great elevation of the adrenalin bottle; some on account of an overdose of adrenalin, several were only partially successful, owing to the great dilution of the adrenalin.

Experiments in which saline infusion was substituted for adrenalin, and which were unsuccessful, were promptly successful on adding adrenalin. In a patient with crushed skull, and whose heart had ceased beating for nine minutes, resuscitation of the heart for thirty-one minutes by this method was made. During the operation for the elevation of the depressed bone, the patient moved his head.

Another patient apparently dead from a severe crushing of the base of the skull was partially resuscitated twenty-four minutes after the apparent death. The proofs of the apparent death were absence of respiration, absence of heart sound on a stethoscopic auscultation, and as a final proof, on opening the jugular vein there was absolutely no circulation. In this case the blood pressure rose to 80 mm. at one time; voluntary respiration appeared. These evidences of vital action continued for thirty-four minutes.

### Officers for the Ensuing Year.

The following officers were elected: President, Dr. Floyd W. McRae, Atlanta, Ga.; vice-presidents, Drs. Geo. S. Brown, Birmingham, Ala., and J. Shelton Horsley, Richmond, Va.; treasurer, Dr. Charles M. Rosser, Dallas, Tex.; secretary, Dr. W. D. Haggard, Nashville, Tenn.

Birmingham, Ala., was selected as the place for holding the next annual meeting; time, Dec. 13-15, 1904.

Dr. John D. S. Davis, Birmingham, was selected as the chairman of the committee of arrangements.

### Monument to Dr. Davis.

The former action of the association in appropriating $2,000 to a memorial, consisting of a ward bearing the name of the association in the City Hospital of Birmingham, was rescinded, and in lieu thereof $2,000 was appropriated to the erection of a monument in Birmingham to the memory of Dr. W. E. B. Davis.

Other papers read were: "Diagnosis and Treatment of Gallstones," by Dr. Mack Rogers, Birmingham, Ala.; "Pneumatic Rubber Suit," by Dr. George W. Crile, Cleveland, Ohio; "Extrauterine Pregnancy," by Dr. T. J. Crofford, Memphis, Tenn.; "The Complications Encountered in the Surgical Treatment of the Testicle," by Dr. J. McFadden Gaston, Jr., Atlanta, Ga.; "Septic Thrombosis of the Femoral Vein Following Influenza," by Dr. D. F. Talley, Birmingham, Ala.; "Bilateral Diffuse Virginal Hypertrophy of the Breasts," by Dr. Gearge Ben. Johnston, Richmond, Va.; "Excision of the Psoas Magnus Muscle for Sarcoma," by Dr. George H. Noble, Atlanta, Ga.; "Pus Collections in the Pelvis," by Dr. C. N. Chavigny, New Orleans; "Five Recent Successful Laparotomies for Gunshot Wounds of Abdominal Viscera, Including One with Twenty-Eight Perforations of Intestines and Mesentery," by Dr. Robert W. Johnson, Baltimore.

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## WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Thirteenth Annual Meeting, held at Denver, Dec. 28 and 29, 1903.*

*(Concluded from page 121.)*

### The Correction of Retrodisplacements of the Uterus.

DR. CHARLES W. OVIATT, Oshkosh, Wis., in a paper on this subject, showed a decided preference for the operation devised by Dr. George H. Noble of Atlanta, Ga., and described in THE JOURNAL, Aug. 9, 1902, p. 302.

He mentioned the following advantages of this operation: 1. Through the one incision any pelvic complication may be treated. 2. The operation utilizes the strongest part of the round ligament instead of its distal end. 3. The normal mobility of the uterus is not disturbed, and it is left in the pelvis where it belongs. 4. It causes no bladder irritation and no dragging because the traction on the ligaments is in the direction of their natural course.

### The Surgical Treatment of Goiter.

Dr. Charles H. Mayo, Rochester, Minn., in discussing this subject, said that it is probable that the lymphatic system acts as a duct to the thyroid, and a study of the function of the lymphatics would explain some factors in the etiology of diseases of this body.

The writer's experience was derived from 108 operations on thyroid tumors. Of these, there were 34 exophthalmic cases, with 6 deaths; 2 malignant, with 1 death; one large lingual thyroid. Two cases presented separated tumors of the pyramidal lobe. There were 71 cases of cystic, colloid, adenomatous and mixed types of goiter operated on, with one death, from pneumonia, on the eighth day. The recurrent laryngeal nerve was permanently injured once, and its function temporarily impaired several times.

He favored the Kocher collar incision, and if the capsule was found thickened over the local tumor, or whole gland, he advises enucleation by the Socin method. If the gland retained its general form, the largest lobe, usually the right, was extirpated, frequently leaving its posterior capsule to protect the laryngeal nerve. He preferred ether anesthesia, preceded by a hypodermic of morphia. Cocain had been used locally, where there was much tracheal disturbance or severe exophthalmic symptoms. He had usually observed some thyroidism one to three days after the operation.

### Intestinal Perforation in Typhoid Fever.

Dr. Byron B. Davis, Omaha, said that a very large number of the operations thus far reported for typhoid fever had not been done until general peritonitis had been fully established, and that 50 per cent. of recoveries did not seem unreasonable, if operation was done before the advent of the peritonitis. He stated that a small per cent. of the cases dying after operation did not die from the operation *per se* or the perforation, but as a result of the general typhoid infection, and thought such cases should not be charged against the operation.

Three cases were reported. The first was operated on the third day after the perforation symptoms arose, death following twenty-four hours later. The second was operated on twenty-six hours after perforation, and was followed by death in eighteen hours. The third was seen only seven hours after the perforation occurred, and there was so much doubt about the diagnosis that no operation was done. In the last case he could not help thinking that frequent estimation of the hemoglobin and a red blood cell count might have been of material value in differentiating between intestinal perforation and hemorrhage.

DISCUSSION.

Drs. E. J. A. Rogers, Denver, and Van Buren Knott, Sioux City, Iowa, both favored early operation in these cases, not waiting for a positive diagnosis.

Dr. James E. Moore, Minneapolis, Minn., mentioned a case in which operation was performed on the third day after perforation had taken place. General peritonitis was present, yet the patient recovered.

Dr. A. I. Bouffler, Chicago, was of the opinion that even in cases of doubt as to whether there was perforation or marked hemorrhage, operation was not necessarily fraught with serious danger.

Dr. C. H. Wallace, St. Joseph, Mo., recalled a case in which perforation had undoubtedly occurred. Operation was advised, but refused. An ice-bag was applied, peristalsis controlled, and, although the patient had pronounced shock, localized tenderness, etc., he recovered.

Dr. H. A. Sifton, Milwaukee, Wis., expressed the opinion that a careful examination would usually reveal perforation. The first case of perforation he operated on was in 1895, the diagnosis having been made within a few hours after perforation, and the operation resulted in a recovery. The second one occurred two or three years ago, the perforation in this case having been in the appendix. This case resulted fatally.

Dr. Charles E. Bowers, Wichita, Kan., said that perforation seldom, if ever, occurred higher than three feet above the ileocecal valve. One could shorten time very much by satisfying himself that it did not occur above that point.

Dr. H. G. Wetherill, Denver, called attention to the fact that erosion of the mucous membrane allowed transmigration of bacteria through the serous coat without actual perforation, and that this condition of things was, perhaps, more frequent than physicians had heretofore believed.

He thought the time was not far distant when the general practitioner would reach the conclusion which surgeons had pointed out, that a milk diet was not the best for typhoid fever patients.

### Surgical Treatment of Nephritis.

Dr. Alexander Hugh Ferguson, Chicago, made reference to the early history of this subject, and to the priority of the operation. He added three cases to those he had already published of renal decapsulation and puncture for active diffuse nephritis.

The indications for surgical treatment of this condition were pointed out at length, and the technic of the operation fully described.

The author thought that when the limitations of the operation were more clearly defined, and many of the extreme cases left alone, the mortality should not be more than 5 per cent. in the hands of experienced surgeons. He believed that the earlier an operation was performed in these cases, the less would be the fatality, and the greater the benefits.

### Multiple Loose Bodies in the Knee-Joint.

Dr. John P. Lord, Omaha, Neb., reported the case of a middle-aged man who had suffered from recurrent attacks of arthritis, the result of loose bodies in the knee joint. As loose bodies in the posterior part of the joint were the chief offenders, it was thought best to make a transverse division of the patella and incision of the lateral and crucial ligaments, as in an operation for resection. This permitted full command of the articulation. Great difficulty was encountered in removing two of the bodies located behind the condyles. The patella was wired. The capsular ligaments were sutured with chromicized gut. Drainage was instituted and an interrupted plaster dressing applied. Union was primary, and a good result secured, although motion was limited. After two months the degree of flexion amounted to about 30 per cent.

Attention was called to the necessity of delaying manipulation after this procedure for fear of retearing of the immature union of the ligaments, thus rekindling the arthritis. After a period of two months, however, active efforts were made to restore function, with greater success, although it was probable that full function could not be regained after such extensive surgical trauma of disarticulation.

### Median Perineal Prostatectomy.

Dr. George E. Goodfellow, San Francisco, had operated by the median perineal route in cases of hypertrophy of the prostate approximately seventy-three times, without any immediate mortality, so far as he was aware. All of these operations were done under spinal anesthesia. Instead of making an incision, as he had previously described, from the base of the scrotum to the margin of the anus, he now made an incision an inch in length above the perineal center, and through this opening he could enucleate the prostate with his forefinger. If it was necessary to enlarge the opening, he did so in the usual way. But through an ordinary incision he had enucleated a prostate weighing 7½ ounces. In no case had he failed to secure anesthesia when he had entered the canal. The needle was inserted between the second and third lumbar vertebræ.

### Complications and Sequelae of Prostatectomy.

Dr. James E. Moore, Minneapolis, stated that it was altogether too grave an operation to be resorted to as a routine treatment for enlarged prostate, and was only applicable to properly selected cases

The most frequent cause of death following this operation was uremia, consequently the most important preliminary examinations were those of the kidneys The next greatest danger was sepsis, and in the presence of an infected bladder it was an ever present one

The most positive indication for operation was very often a complicating cystitis, and it was for the relief of this complication that the various palliative measures were most frequently employed. The only satisfactory treatment for this complication was drainage, and this was best brought about by perineal prostatectomy. Stone was a frequent complication of enlarged prostate, and should always be sought for and removed during the operation The incision for a prostatectomy, when too extensive, caused various complications Hemorrhage was an occasional complication, but its dangers had doubtless been overestimated. A serious objection to the suprapubic operation was the extensive injury done to the bladder, while the most difficult problem connected with the perineal operation was how to avoid injury to the rectum

As sequelæ of prostatectomy, he mentioned impotence and incontinence or dribbling A communication between the urethra and the rectum was one of the sequelæ met with occasionally Epididymitis often followed prostatectomy, sometimes becoming so troublesome as to require the removal of the epididymis

The author believed some failures were bound to follow this important operation, but that it was destined to be one of the greatest boons modern surgery had to offer suffering mankind

### DISCUSSION

**Dr Alexander Hugh Ferguson** had operated on thirty one or two cases without a death, without complications or sequelæ, but since then in operating on these cases a death would occur after every few cases He had had four deaths, so far as he could determine, after having operated on forty cases In only one of these was death due to the operation *per se*

The discussion was further participated in by Drs C E Ruth, Charles A Powers, John P Lord, Archibald McLaren, William Jepson, D S Fairchild, Donald MacRae, none of whom gave as roseate a view of the results following prostatectomy by any particular route as had been reported by some surgeons

### Resection of Arteries and End-to-End Union. Experimental Research

**Dr O Beverly Campbell**, St Joseph, Mo, detailed forty experiments on animals, in which different methods of operating were adopted

His conclusions were as follows

1 The death of the endothelial cells following injury to arteries and the addition of cell death incident to the trauma inflicted from operative measures for the repair of the injury probably furnished the necessary nucleo-albumin needed for the production of the chemical process of coagulation of the blood

2 In the resection of arteries and in their suture in continuity, the suture should not penetrate the intima, as the additional death of endothelial cells incident to passing the suture and surrounding it from pressure necrosis might contribute to the coagulation of blood

3 The most rigid aseptic technic should be followed in surgical work on the arteries

### Surgical Treatment of Pulmonary Abscess.

**Dr Van Buren Knott**, Sioux City, Iowa, stated that the physical signs common to pulmonary abscess in many cases were alone not sufficient to render its exact localization possible, and while one might be satisfied in a given case that the lung contained an abscess, and from the usual methods of examination had decided as to its location, this point should be corroborated by the aspirator before proceeding with the operation Two cases of pulmonary abscess were reported

The treatment of these cases by other than surgical methods promises little, and as the complications of gangrene, empyema and bronchiectasis so seriously increased the mortality, even in the hands of the best operators, it would appear that a plea made for early operative relief of patients suffering with pulmonary abscess was not inconsistent with the facts

### The Anatomy and Physiology of the Peritoneum and Their Relation to the Treatment of Peritonitis.

**Dr Arthur E Hertzler**, Kansas City, Mo, said the stomata were declared to be artefacts, for the reason that they occurred only when the peritoneum was treated with a silver nitrate solution They did not appear when dilute solutions were injected into the peritoneal cavity of the living animal Attention was called to the fact that the universal reference to the deposit produced when a serous membrane was treated with silver as an albuminate of silver was an error No such substance existed What was formed was in all probability a silver chlorid produced by the action of the chlorin in the fluid with the mercury in the silver solution, producing the stable silver chlorid The peritoneum was covered by a layer of fat cells resting on a layer of elastic tissue Below this were the blood and lymph vessels Both systems always formed complete channels, and the lymph vessels never formed a connection with the peritoneal cavity In the process of absorption from the peritoneal cavity the fluid must pass between the endothelial cells lining the peritoneal cavity, through the elastic layer, and between the cells lining the blood vessels Whether the cells of each of these layers were united with the intercellular bridges could not be stated The absorption of .7 per cent NaCl solution took place more rapidly than any other solution Salt solutions of more than 1 per cent were absorbed more slowly Certain solutions caused a transudation instead of being absorbed Chief among these was formalin It was effective in a dilution of 1/10,000 Absorption was likewise lessened by the production of an artificial hydremia Normal NaCl solution might be used either by hypodermoclysis or per rectum, the former being the more rapid and certain

Applying these researches to the treatment of peritonitis, the fallacy of normal salt irrigations was insisted on By using this fluid the toxins were hurried into the circulation more rapidly The logical treatment was to employ those means which retarded absorption The production of an artificial hydremia might be accomplished either by the injection of the salt solution under the skin or per rectum Formalin in the strength indicated was safe, as had been previously determined by intravenous injections

### Cholecystitis, with Special Reference to Etiology and Diagnosis.

**Dr T E Potter**, St Joseph, Mo, after reviewing the subject, said that the most probable cause of infection of the gall bladder was through the blood of the portal system, and from this source we not only had the catarrhal and parenchymatous inflammations, with occasionally empyema, but sometimes malignancy caused by the presence of stones

Among the most prominent symptoms he mentioned tenderness immediately under the ninth intercostal cartilage, saying that this symptom was as valuable as tenderness in the region of McBurney's point in cases of appendicitis This tenderness might extend down for two or three inches To elicit it, one should press the fingers up under the ribs and require the patient to take a deep inspiration The patient would complain of pain, and if the fingers were held firmly, the act of inspiration was instantly stopped as though there had been a sudden attack of pleurisy

### The Treatment of Posterior Perforations of the Fixed Portions of the Duodenum

**Dr J E Summers, Jr**, Omaha, in a paper on this subject, said that retroperitoneal perforations of the duodenum were of such infrequent occurrence that little attention had been directed toward their treatment

He believed it was almost impossible for a gunshot wound of either the stomach or duodenum, which perforated both walls, to be limited to those organs Therefore, under such circumstances, in addition to the repair of any intraperitoneal organs involved, proper incisions must be made to provide for retroperitoneal drainage.

Dr. C. E. Ruth, Keokuk, Iowa, demonstrated the "Anatomic Treatment of Intracapsular Fractures of the Femoral Neck."

Dr. Donald McRea, Jr., Council Bluffs, Iowa, discussed "Portal Obstruction with Gastro-Intestinal Hemorrhage Following Operation."

Dr. William Jepson, Sioux City, Iowa, spoke of "Primary Carcinoma of the Spleen and Its Treatment by Splenectomy."

A paper by Dr. M. L. Harris, Chicago, on "The Use of Silver Foil to Prevent Adhesions in Brain Surgery," and one by Dr. H. G. Wetherill, Denver, on "Chronic Adhesive Sclerosing Peritonitis," will appear in The Journal.

### Election of Officers.

The following officers were elected: President, Dr. Charles H. Mayo, Rochester, Minn.; first vice-president, Dr. H. D. Niles, Salt Lake City, Utah; second vice-president, Dr. L. L. McArthur, Chicago; secretary-treasurer, Dr. B. B. Davis, Omaha, Neb.

Milwaukee, Wis., was selected as the place for holding the next annual meeting; time, Dec. 27 and 28, 1904.

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## Therapeutics.

**[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]**

### Ergot of Rye in Treatment of Chorea.

According to an abstract in *Amer. Medicine*, Eustace Smith recommends very highly the use of ergot in the treatment of chorea. He states that there is too great fear of giving overdoses of this preparation. He does not hesitate to give it in dram (4.00) doses of the liquid extract to children seven or eight years of age and repeating it every three or four hours, continuing it for weeks if necessary, and twenty-drop doses (1.30) may be kept up for months. The pulse rate decreases fifteen or twenty beats, but no dilatation of the pupils, headache, nausea, abdominal pain or other unpleasant symptoms have been observed. He, in some cases, increases the dose to one and a half drams (6.00) if smaller doses prove ineffective. The addition of one to three minims (.06-.20) of liquor strychniæ (1 per cent.) to each dose of ergot seems to hasten the action of the ergot. He considers ergot, properly administered, to be a more reliable remedy than liquor potassii arsenitis. To obtain the results desired, the child should be kept in bed and the bowels kept freely open. This treatment should be kept up for some length of time after the symptoms have disappeared.

### Pilocarpin in Pneumonia.

According to E. Curtin, in *The Lancet*, pilocarpin is of great value in relieving the breathing and pleuritic pain in pneumonia. It seems also to hasten resolution. Its effects are so produced by exciting glandular secretion. He administers it in one tenth (.0065) grain doses of the nitrate which will not cause perspiration, but rarely fails to reduce the temperature within an hour. It may be repeated without any untoward effects. It stimulates the flow of saliva and cleans the tongue. The patient should be kept warm during the administration.

### Adrenalin Chlorid in Nasal Disturbances.

Adrenalin chlorid applied in the form of a spray or on pledgets of cotton, or in some cases dropped in with a medicine dropper, has been used extensively and to good advantage in nasal disturbance by S. G. Dobney, according to an abstract in *Med. Rev. of Reviews*. He has found it to be of great value in the treatment of hay fever, and other nasal neuroses producing transient obstruction due to swelling of the turbinates. Good results have also followed its use in acute rhinitis, thereby shortening the attack. It is superior to cocain, according to the author, in making a diagnosis between general hypertrophy of the nasal mucous membrane and a turgescence of the erectile tissues; in nasal operations, especially on the septum, its ability to check the hemorrhage is marvelous; however, in epistaxis it is of but little avail except when it consists of gentle oozing. He employs the following combination in the treatment of the foregoing conditions:

| | | | | |
|---|---|---|---|---|
| ℞. | Sol. adrenalin chloridi (1-100) | ℥i | 30 | |
| | Resorcini | | | |
| | Sodii chloridi, āā | gr. v | | 30 |
| | Aquæ destil. | ℥i | 30 | |

M. Sig.: To be used locally in the form of a spray or on pledgets of cotton.

Beaman Douglas recommends the following combination to be used in diseases of the nose and throat and for operative purposes:

| | | | | |
|---|---|---|---|---|
| ℞. | Cocainæ hydrochlor. | gr. v | | 30 |
| | Sodii chloridi | gr. x | | 65 |
| | Beta eucaine | gr. v | | 30 |
| | Ext. adrenalis ex sic. | gr. xxx | 2 | |
| | Aquæ | ℥i | 30 | |

Misce. Add the water to the dried suprarenal gland, filter and add the eucain and sodium chlorid and finally the cocain just before using. Sig.: Six minims to be injected beneath the membranes or applied locally on membranes by means of an applicator.

### Acute Eczema.

In the treatment of acute eczema, according to Bjorkman in *Merck's Archives*, if it is localized, a moist dressing should be applied containing 2 per cent. of boric acid or a dressing saturated with a solution of aluminum acetate (1-10).

If the eczema covers larger areas a dusting powder is of value, as follows:

| | | | | |
|---|---|---|---|---|
| ℞. | Zinci oxidi | | | |
| | Pulv. amyli, āā | ʒiiss | 10 | |
| | Talci venet. | ʒvi | 24 | |

M. Ft. pulvis. Sig.: To be used locally several times a day.

As a salve in these forms of acute eczema the following is of service:

| | | | | |
|---|---|---|---|---|
| ℞. | Bismuthi subnit. | ʒi | 4 | |
| | Lanolini | ʒii | 8 | |
| | Liq. petrolati q. s. ad | ℥ii | 60 | |

M. Ft. unguentum. Sig.: Apply locally; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Acidi salicylici | gr. x | | 65 |
| | Zinci oxidi | | | |
| | Amyli, āā | ʒiiss | 10 | |
| | Liq. petrolati q. s. ad | ℥i | 30 | |

M. Ft. unguentum. Sig.: Apply locally.

If the pruritus is pronounced the following lotion containing carbolic acid will be of assistance in checking the itching:

| | | | | |
|---|---|---|---|---|
| ℞. | Acidi carbol. | gr. xx-xxv | 1.30-1 | 65 |
| | Aquæ rosæ | | | |
| | Aquæ destil, āā, ad | ℥iii | 90 | |

M. Ft. lotio. Sig.: To be externally applied; or as a salve the following to relieve the pruritus:

| | | | | |
|---|---|---|---|---|
| ℞. | Acidi salicylici | gr. vi | | 36 |
| | Menthol | gr. xi | | 70 |
| | Olei lini | | | |
| | Aq. calcis, āā, ad | ℥ii | 60 | |

M. Sig.: To be applied locally.

Another very effective combination is:

| | | | | |
|---|---|---|---|---|
| ℞. | Ichthyol. | | | |
| | Zinci oxidi, āā | ʒi | 4 | |
| | Lanolini | ʒiii | 12 | |
| | Liq. petrolati ad | ℥i | 30 | |

M. Ft. unguentum. Sig.: Apply locally.

### Erysipelas.

In *Med. Rev. of Reviews* Smolitcheff states that erysipelas can be treated locally with success by employing a remedy which is readily absorbed by the skin, and which is powerful enough to kill the active organism, the streptococcus, or at least to prevent its further activity. The remedy must at the same time, when taken up by the circulation, neutralize existing toxins and fortify the cells against their invasion and producing at the same time a leucocytosis. To fulfill such requirements he recommends the alcoholic tincture of iodin as a specific comparable to the effects of quinin in malaria. This preparation diminishes the swelling and pain and causes a drop in the temperature. The following combination is recommended by the author:

| | | | | |
|---|---|---|---|---|
| ℞. | Tinct. iodi | ʒvi | 24 | |
| | Olei camphoræ | | | |
| | Ichthyol., āā | ʒiii | 12 | |

M. Sig.: Shake and apply locally twice or three times a day.

### Glycerinate of Tannin in Burns.

According to an abstract in *Med. News*, the glycerinate of tannin has been found to be a most satisfactory preparation in the local treatment of burns. If the burns are of the second degree the vesicles should be punctured and the fluids removed, after which glycerin and tannin should be applied in 50 per cent. solution and covered by sterilized gauze and cotton. The solution should be applied several times a day without changing the gauze. Burns of third degree should be treated likewise. The good results are ascribed to the effects of the tannin on the diseased tissue, coagulating the albuminous substances and forming a protective coating, also the glycerin is an antiseptic.

### Otitis Media.

Patients suffering from acute otitis media must be kept indoors, according to *Kan. City Med. Rec.*, and given a purgative. Every two hours the temporal and mastoid regions and the ear should be covered with a compress dipped in a solution of sodium bicarbonate (60 parts to a 1,000) as hot as can be borne by the back of the hand. The whole may then be covered by a piece of oiled silk and held in place by a bandage. Previous to applying the compress three or four drops of the following solution may be dropped into the ear:

| | | | | |
|---|---|---|---|---|
| ℞. | Cocainæ hydrochlor. | gr. iss | | 09 |
| | Resorcini | gr. xii | | 75 |
| | Glycerini (neutral, sterilized) | ʒiiss | 10 | |

M. Sig.: Three or four drops instilled into the ear at every second dressing. Three or four times during the day the child should be placed on the bed with the head low and a few drops of the following combination instilled into each nostril:

| | | | | |
|---|---|---|---|---|
| ℞. | Menthol | gr. iv | | 25 |
| | Olei amygdalæ dulcis | ℥i | 30 | |

M. Sig.: To be introduced into the nares by means of a medicine dropper three times daily.

The mouth and pharynx should be thoroughly cleansed and irrigated three or four times daily with boiled water and introduced with a fountain syringe. If the pain does not cease within a day or two and the tympanum becomes bulged and red, paracentesis should be performed.

To serve as an astringent, the following is recommended by the author:

| | | | | |
|---|---|---|---|---|
| ℞. | Acetanilidi | | | |
| | Bismuthi subnit., āā | gr. xxiiss | 1 | 50 |
| | Ung. zinci oxidi | | | |
| | Ung. aq. rosæ, āā, ad | ℥i | 30 | |

M. Ft. unguentum. Sig.: Apply locally; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Alumnol | gr. xxiiss | 1 | 50 |
| | Ung. aq. rosæ ad | ℥i | 30 | |

M. Sig.: Apply locally.

Gerhard recommends the following in relieving the pain in acute otitis:

| | | | | |
|---|---|---|---|---|
| ℞. | Tinct. aconiti rad. | ʒiss | 6 | |
| | Glycerini (sterile) | ʒiiss | 10 | |

M. To be warmed and two or three drops instilled into the ear.

The following combination is also employed in relieving earache:

| | | | | |
|---|---|---|---|---|
| ℞. | Ichthyol | m. xv | 1 | |
| | Glycerini | | | |
| | Aquæ, āā | ʒii | 8 | |

M. Sig.: Warm and drop a few drops into the ear three times a day.

### Hypophosphites in the Treatment of Abscesses.

Sinclair Tousey, in *Annals of Gyn. and Ped.*, recommends the employment of hypophosphite of calcium, sodium and potassium in the prevention and treatment of abscess formations. He recommends it in that class in which there is no evidence of virulent infection, but simply a swelling of the subcutaneous tissue presenting well-marked fluctuation without redness or pain, such as may occur in the axillæ, perineum or about the neck. In the treatment of such conditions he recommends the following combination as being the most effective one:

| | | | | |
|---|---|---|---|---|
| ℞. | Calcii hypophos. | gr. v | | 30 |
| | Sodii hypophos. | gr. ii | | 12 |
| | Potass. hypophos. | gr. ii | | 12 |

M. Ft. capsula No. i. Sig.: One such three times a day.

If preferable the foregoing may be taken in the form of a syrup. This combination is preferable to those containing iron or strychnia.

### Therapy of Iron.

After studying a large number of cases, including the various forms of anemia and estimating the amount of hemoglobin and the number of corpuscles, Biernacki, in *Internat. Med. Mag.*, concludes that only in chlorosis is the administration of iron of real value. In other forms of anemia nothing can be expected from its use. He states, particularly, that the large number of neuropathic individuals, though pale and having the symptoms of anemia, show no real impoverishment of the blood and are injured rather than benefited by iron medication. Consequently he condemns the widespread custom of prescribing iron in cases of pallor without a proper examination of the blood. When indicated, as in chlorosis, iron should be given in large doses. No benefit can be expected from the use of the chalybeate waters.

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## Medicolegal.

**Cause of Disease a Matter of Expert Opinion.**—The Supreme Court of Tennessee says, in Mayor and Aldermen of Knoxville vs. Klasing, that it is, and from the nature of the case must be, a matter of expert opinion as to what is the cause or origin of disease, and the testimony of physicians is the most reliable evidence that can be had on the subject.

**Damages Recoverable for Malpractice.**—The Supreme Court of South Dakota holds, in the malpractice case of Baxter vs. Campbell, that, there being nothing in the complaint or in the evidence from which malice might be presumed, an instruction authorizing the imposition of exemplary damages was seriously prejudicial to the physician sued. The writer of the opinion (Justice Fuller) says that, so far as his research has extended, the damages awarded in actions of malpractice are compensatory, and that the South Dakota statute provides for exemplary damages only as a means of punishment "when the defendant has been guilty of oppression, fraud or malice, actual or presumed." In order to justify the imputation of malice, within the rule of punitive damages, the injury must have been conceived in a spirit of mischief, and partake of a criminal or wanton nature. As exemplary damages are penal in character, and malice an ingredient of crime, no one should be adjudged to pay "smart money" without first being accused of something malicious, and given an opportunity to defend. When exemplary damages are predicated on malice, the party sued is entitled to know from the complaint what acts, omissions, or circumstances are relied on to constitute the gravamen of the charge, and the instructions of the court should be confined to the case as made by the evidence. Where both actual and exemplary damages are claimed, it has been considered necessary to allege each in a separate count or cause of action; but under the liberal practice of South Dakota a complaint is deemed sufficient to admit the proof when it reasonably appears from the recitals thereof that the damages alleged were maliciously occasioned. According to an elementary rule, instructions concerning exemplary damages, though properly alleged, should never be given unless evidence applicable thereto has been introduced.

**Constitutionality of Compulsory Vaccination Laws.**—The Second Appellate Division of the Supreme Court of New York says that, in the case of Viemeister vs. White, where the first-mentioned party sought to compel the admission of his child to a public school without the submission of the latter to vaccination as required by the state statute, attention was called to various provisions of the state constitution in an effort to establish a conflict between the statute and the fundamental law. First among these provisions, was one that, "The legislature shall provide for the maintenance and support of a system of free common schools, wherein all the children of this state may be educated." But the court is of the opinion that the constitution did not intend to change the practice and policy of the state in reference to the schools, but merely to insure a continuance and an extension of the privileges of citizens of the state, and that the legislature has a right to impose any reasonable regulations on this privilege which operate equally on all persons in the same class and under the same conditions. Continuing, the court says that it may be conceded that the legislature has no constitutional right to compel any person to submit to vaccination; but where the state grants a privilege it has the right to determine the conditions on which it may be enjoyed; has a right to regulate the privilege in the interests of the fullest enjoyment by all; and, so long as this regulation does not operate to deprive any member of the state of "any of the rights or privileges secured to any citizen thereof, unless by the law of the land or the judgment of his peers," there is no ground on which the statute may be declared null and void. The vice against which this constitutional limitation was directed was partial legislation—legislation which operated, not on the legislators and their immediate constituents, but on limited numbers of people. If the statute in question is not justified, if it is not wise or proper to impose the condition there named, it must be presumed that the legislature will in the future remedy the wrong. It can not be done by the courts. The statute violates no specific guaranty.

**Board of Health, Health Officer, Typhoid Fever, Etc.**—The Supreme Court of Michigan says, in the case of Cedar Creek Township vs. Board of Supervisors of Wexford County, that in the year 1900 sundry expenses were incurred by the health officer of the township. It did not appear that this was expressly authorized by the board of health, but the items were allowed by the said board of the township, and were then presented to the board of supervisors, which disallowed them. The claimants—i. e., the persons who furnished the services and other items—then presented them a second time to the board of health of the township, and they were allowed and paid by the township. Thereafter the township presented an itemized statement of the claims to the board of supervisors for payment, and they were again disallowed. The items presented were for expenses alleged to have been incurred in the care and treatment of typhoid fever cases within the township. The statute at the time provided that when any person should be infected with smallpox or other sickness dangerous to the public health, the board of health of the township where such person might be should make effectual provision in the manner in which they should judge best for the safety of the inhabitants by providing nurses and other assistance and necessaries, etc., which should be at the charge of the person himself or those liable for his support, if able; otherwise as a charge of the county; provided, that the health board should keep and render an itemized and separate statement of expenses incurred in so caring for each person. The health board, the Supreme Court says, has large discretionary powers, made necessary by the fact that it is an emergency board. When it has reason to fear danger from diseases which are generally recognized as communicable and dangerous to the public health, a court may be justified in taking judicial notice that the disease is within the statute, which in plain terms includes all diseases where there is danger to the public health from a threatened spread of the disease. Within reasonable bounds, at least, it says, the health officer's conclusion that a disease is communicable, and is a menace to public health, must be conclusive; otherwise the efficiency of health officers and boards would be seriously lessened, for persons would be likely to hesitate about furnishing necessary medicines and other commodities and rendering services if it involved the danger of review by another board, with power to disallow claims on the ground that the disease was not within the statute, or the goods furnished were not necessary. And the court is of the opinion that the allowance by the township board of health, which is identical with the township board in townships, was designed to be final, and where the law imposes the liability on counties it was intended that the allowance by the township board should bind the board of supervisors as to the character of the disease, the necessity, and the fitness of the articles and services furnished and rendered, as well as the fact that they were furnished. The question of the ability of the patient to pay is also foreclosed by the allowance by the township board. While the board did not keep, in a book of its own, an account of items furnished each person, the court holds that it was a sufficient compliance with the statute that they had before them and allowed such itemized accounts, and rendered such an account in this case. The requirement to keep and render an account was met when the board was able to render the itemized and separate statement required by statute. There was a bill for $149.50 for attendance on patients and consultation with other physicians allowed to the health officer of the township. While no direction to perform these services was given by the board, the court deems it enough that they knew that they were being rendered, appeared to have acquiesced, and afterward allowed the bill.

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### Medical Record, New York.

*January 2.*

1 *A Plea for Justice to the Consumptive. S. A. Knopf.
2 *The Diagnostic Significance of Certain Reflexes and Tendon Phenomena. H. Oppenheim.
3 *Commentaries on Lues and Leprosy as Subcatabolic Diseases. Homer Wakefield.
4 *Diagnosis of Acute Lobar Pneumonia. Stephen Smith Burt.

1. **Tuberculosis.**—Knopf's paper is a plea for the tuberculous patient as against the too prevalent phthisiophobia of the day. He severely criticises the action of the New York Legislature in enacting the Goodsell-Bedell law against the establishment of sanatoriums for this class of cases, and the decision of the Marine Hospital Bureau making tuberculosis a dangerous contagious disease. He also gives especial attention to one or two recent papers which have charged victims of tuberculosis with possessing criminal tendencies, and brings forward evidence from high authorities against any such statement. The paper concludes with the resolutions proposed in the Society of Medical Jurisprudence against the above-mentioned enactment.

2. **The Diagnostic Reflexes.**—Oppenheim first notices the almost universal occurrence of the knee phenomenon and its importance. It is only in especial cases and mainly in degenerates that it may be absent, though there may be mechanical conditions preventing its recognition, such as a great development of fat, shortness of patellar tendon, etc. The heel phenomenon is now recognized as a constant reflex in health, but exceptions occur to a somewhat greater degree than with the knee phenomenon. Sciatica, for instance, may prevent it, especially sciatic neuritis, and the mechanical conditions above noticed. Alcoholism, diabetes, and other affections, may cause its disappearance, so that it is not of invariable significance as a symptom of spinal disease. As to the skin reflexes, he notices particularly the occurrence of the Babinski reflex in certain spinal disorders, but recognizes also that it is not of invariable occurrence. It is occasionally found in atonic conditions of the musculature, as well as the hypotonic. Coincident lesions of certain cerebral tracts or areas may prevent its occurrence, nor can we assume that its appearance indicates an anatomic change in the pyramidal tracts, as it may be occasionally demonstrated after epileptic attacks. Peripheral

disease or poliomyelitis with paralysis of the toes may also prevent its appearance In conclusion, he calls attention to a phenomenon which in significance is very close to the Babinski phenomenon and which he himself first observed and described In a normal individual, on stroking the inner surface of the leg from above downward, with either the thumb or the handle of a percussion hammer, or pinching a fold of skin on the inner surface of the leg, either no reflex movement will follow or a flexion of the toes will result Under pathologic conditions, that is, in pyramidal involvement, instead of the plantar flexion of the toes, dorsal flexion is observed This reflex differs from the Babinski not alone in the source of its inception, but in the fact that not only the extensor hallucis longus participates in the reflex movement, but also the tibialis anticus and often the extensor digitorum communis and the peronei The contraction of the extensors for the foot is physiologic when examining the plantar reflex, and the pathologic reflex is only known through the contraction of the extensors for the toes, whereas in Oppenheim's reflex the pathologic reflex is more plainly indicated by the involvement of other muscles In a few cases where the estimation of the toe reflex is uncertain, the Oppenheim reflex may be decisive.

3 **Subcatabolic Diseases.**—Wakefield includes syphilis and leprosy as coming under his class of subcatabolic conditions described in an earlier paper abstracted in THE JOURNAL, Dec 13, 1902, ¶13, p 1549 He brings forward lengthy arguments in favor of his views, asserting that the rational basis of treatment in every case must be the restoration of normal catabolism and the elimination of accumulated and decaying refuse of past subcatabolism and not an attempt at independent parasitic destruction

4 **Pneumonia.**—Certain difficulties in the diagnosis of aberrant pneumonia are noticed by Burt, and he remarks that only a frequent examination and chest exploration of all patients where there is a possibility of idiopathic, intermittent or terminal pneumonia will reveal the true condition The ordinary typical signs of pneumonia may be absent He points out more particularly the difference between pneumonia and typhoid and pleurisy Of course, beside the agglutination test, bacteriologic examination offers valuable aid, and bacteriologic examination of the blood may yet be of extreme diagnostic value where the pulmonary signs are indefinite and there is no expectoration

## New York Medical Journal

*January 2*

5 *Gallstones, Their Surgical Treatment B Farquhar Curtis
6 *The Surgical Treatment of Malignant and Non malignant Diseases of the Stomach Albert Vanderveer
7 *Hysterectomy for Infectious Disease of the Uterus and Uterine Appendages H C Deaver
8 *The Treatment of the Cardiac Toxemia of Pneumonia Henry L Elsner
9 *Some Investigations of a Bacterial Treatment of Tuberculosis (To be continued ) Stephen J Maher
10 *The Surgery of the Day Charles L Kelsey
11 *The Ocular Complications of Mumps J H Woodward

5 **Gallstones**—Curtis sums up the advantages of operation before grave infection has taken place in (1) The avoidance of such accidents and the improvement of existing inflammatory conditions, (2) the removal of the stone before it enters the common duct, with the dangerous consequences likely to follow, (3) the prevention of severe attacks of colic and cystitis, (4) stoppage of calculus formation, (5) the fact that latent cases are by no means free from danger, so that recovery from one attack of colic is no evidence that another one will not occur or that other stones may not remain behind or chronic cholecystitis persist, (6) it seems to be the general experience that in the latent cases while the patient does not have symptoms pointing directly to the bile passages, they are afflicted with various dyspeptic complaints which can be entirely and completely removed by operation

6 **Stomach Surgery**—Vanderveer describes the methods of operation in stomach surgery, more especially gastro enterostomy, and gives his own conclusions based on a variety and number of operations as follows

> 1 Gastroenterostomy can be applied to all kinds and conditions of stenosis of the pyloric end of the stomach
>
> 2 It is a preferable operation to that of resection of the stomach, in many cases, the immediate mortality being less and the possibility of the extension of life being quite as great, with as much comfort
>
> 3 Next to gastroenterostomy I believe gastrectomy to be the most reasonable and satisfactory operation, yet this operation will necessarily be limited to but few cases In doing it great attention should be paid to removal of the lymphatic glands, as in this rests much of the permanent success of the operation and non return of the malignant growth

7 **Pelvic Infection**—Deaver notes the progress of postpartum uterine infection, and protests against the practice of aspiration through the vagina in cases of pelvic abscess, as the needle may enter the intestine A better procedure is to open freely the cul de sac by an incision through the posterior vaginal vault Where the collection is so placed that it can not be reached by such incisions he keeps the case under the closest observation with careful feeding and the avoidance of purgation If the collection is in the upper part of the broad ligament and it is doubtful whether it can be reached by incision above Poupart's ligament, he makes an incision in the median line, just above the upper margin of the mass and carefully inspects its relation to the abdominal wall and viscera, and then packs with gauze above and to each side and evacuates without danger of soiling the peritoneal cavity, mopping out with iodoform gauze, exercising care not to destroy any adhesions Where the infection has passed into the tube, forming a pyosalpinx or tubo-ovarian abscess, he always operates by the abdominal route, tying off the ovarian vessels as close to the pelvic wall as possible, and rapidly excising the tube and ovary with scissors, following the incision right into the horns of the uterus, and closing the resulting wound with continuous suture He drains with gauze placed along the line of suture. In still another class of cases where the infection appears as a phlebitis of the uterine sinuses and veins of the broad ligament, with multiple abscesses and acute peritonitis, pronounced constitutional symptoms, diarrhea, etc, the question of hysterectomy presents itself. In most of these cases total hysterectomy is to be preferred Early operation can save the patient in some of these highly virulent and rapidly fatal forms of septic peritonitis which are similar to the fulminating forms of appendicitis, and surgery must be performed In infection from gonorrhea and dermoid cysts and from interligamentary and ovarian cysts, he is in the habit of performing supravaginal hysterectomy He considers it in badly infectious cases with dense adhesions the ideal operation, since it thoroughly removes all the diseased condition The floor of the pelvis is left with a serous covering by neatly stitching the apposed serous surfaces together

8 **Pneumonia**—The prime factor in pneumonia is a toxemia with obstruction in the pulmonary circuit This leads to cardiac asthenia with a liability to marked changes in the right heart and far reaching degenerative changes in the muscle, with heart clots and vasomotor paralysis The treatment must be prompt, radical and sustaining Elsner protests against the indiscriminate use of nitroglycerin in these cases, as it aggravates the lowered arterial tension from paralysis of the vasomotors There are three remedies which promptly meet the indications These are strychnia, digitalis and suprarenal extract The first two should be used hypodermically The latter acts on the heart and the blood vessels favorably, and not on the vasomotor center, and may be used to assist strychnia He quotes from a former paper in regard to the use of diffusible stimulants in these cases Compound spirit of ether, aromatic spirit of ammonia, compound spirit of lavender and tincture of valerium are recommended, giving 15 drops of each every fifteen minutes, and also doses of caffein and spartein sulphate, ¼ grain of the latter and 4 to 6 grains of the former, every two, three or four hours In the faithful administration of ethereal stimulants he has great confidence, and some of his colleagues have had equally good results

9 **Tuberculosis**—Maher's article, of which only the first part appears in this issue, is of interest He describes his experiments with a special bacillus cultivated from the whey of the milk of a consumptive cow, and his employment of its

cultures in the treatment of cases of tuberculosis, apparently with decided advantage. Several cases are reported. The bacillus seemed to be very long lived, as cultures survived in stoppered bottles for four years or more. He suggests as a remedy for this disease pure cultures of this bacillus, which he calls his X bacillus, given by injection. It is a spore-producing, gelatin-liquefying germ, growing in the presence or absence of air, in acid or alkaline media, at room or blood temperature, and seems to be hostile to other bacterial forms. Rabbits were inoculated with pure cultures without harm, whether in the tissues or veins, or abraded areas. (The article is to be continued.)

10. **Surgery of the Day.**—Kelsey criticizes the postgraduate schools, not that they do not furnish good instruction, but as teaching to those incapable of understanding and with no restrictions as to their use of it. He hints that students who attend postgraduate schools should be required to present some evidence of qualification, and that the schools should be placed under legislative control.

11. **Ocular Complications of Mumps.**—Woodward reviews the findings of various authorities as regards the ocular sequelæ of mumps, and reports a rare case of optic neuritis following the disease.

### American Medicine, Philadelphia.

*January 2.*

12 *The Early Diagnosis of Arteriosclerosis. Alfred Stengel.
13 *A Bacteriologic Investigation of Commercial Vaccine Virus. William T. Howard, Jr., and William H. Weir.
14 *The Methylene-blue Eosin Stains. Walter Baumgarten.
15 *Some Remarks on the Etiology of Hyperplasia of the Pharyngeal Tonsil in the Light of Recent Investigations. Thomas J. Harris.
16 Percentage Solutions, with Reference to the Metritic System. Joseph W. England.
17 *Seasickness: Etiology and Prophylaxis. E. Kirkland Shelmerdine.
18 *The Morbid Anatomy and Histology of Pulmonary Tuberculosis in Relation to Its General Pathology and Clinical Manifestations. G. Sims Woodhead.

12. **Arteriosclerosis.**—Stengel discusses the causes of arteriosclerosis, such as nervous strain, overwork, alcoholism, overfeeding, metal poisoning and infectious disease, especially syphilis. He thinks overfeeding as a cause has been neglected by physicians, as he has known a number of cases where no other factor was ascertainable. Heredity, of course, must not be lost sight of. The importance of early recognition is obvious, and he remarks as to the effects of loss of elasticity of the blood vessels on the heart. The four principal symptoms he mentions are the character of the first heart sound, its lengthening and heaviness; the accentuation of the second heart sound, a tendency to increase of what is called the "tidal" wave, and the determination of blood pressure. These, however, are not found in arteriosclerosis alone. He does not accept von Basch's opinion as to the importance of the persistent increase of blood pressure as a symptom of arteriosclerosis. Among the early clinical symptoms are change of vigor and of color and the various evidences of reduced vitality, an alteration of the skin, and of the activity of the sweat glands. Usually they are inactive, but there is sometimes a tendency to abnormal sweating. Increase in the total amount of urine is an early symptom, and variations in its specific gravity may also be noticed. The morning urine may be 1.025 and the evening urine 1.005 to 1.01. Later, occasional or continuous slight albuminuria appears. When the heart is especially affected there may be various phenomena of myocardial degeneration, arrhythmia, increased force of the apex impulse and suggestions of dyspnea. A tendency to ascribe irregularity of the heart in persons over forty to the overuse of tobacco, alcohol, coffee or tea is remarked on; more frequently it is the result of changes in the arterial system and the heart. Neither cause should be considered without the other. He finally calls attention to ophthalmic examination showing thickening of the retinal arteries.

13. **Vaccine Virus.**—Howard and Weir give the results of examinations of vaccine virus in Cleveland, showing the percentages of contamination. A rather notable point is that the virus obtained in the open market, as was that of Rosenau, showed much more contamination than that obtained from the dealers direct. The 9 varieties of actinomyces isolated will form the subject of a second paper. Few of them conform to the descriptions of previously recognized types, and none of them has caused suppuration or actinomycotic nodules in laboratory animals. This, however, the authors do not think is of importance, as such a result is rare in any case.

14. **The Methylene-Blue Eosin Stain.**—Baumgarten's paper is incapable of analysis in reasonable space. The first part is largely historical. The latter part contains the formulæ and methods of making a number of these stains. It will be an interesting paper of reference for the laboratory worker.

15. **The Pharyngeal Tonsil.**—The causes of enlargement of the pharyngeal tonsil are sometimes obscure. Heredity seems to play a limited rôle, and in a certain proportion of cases tuberculosis may be of importance, but syphilis seems to be of little account. The association of scrofula and struma is discussed at some length by Harris, and he notices the generally-conceded occasional factor of inflammation also at some length. He offers the results of his study in the following conclusions:

> 1. The pharyngeal tonsil possesses a distinct function or functions. 2. This function is of the nature of a defense against the entrance of bacteria and consists in a certain irrigation of the tonsil surface by a lymph stream loaded with lymphocytes. 3. This protection function carries with it the inherent qualities of the tonsil to enlarge on the slightest irritation for the affording of further power of defense. 4. This inherent tendency of the tonsil to enlarge is further seen in the frequent recurrence of the tonsil after removal. 5. Strictly speaking then, in the great majority of cases such enlargements are not a pathologic, but a physiologic process.

17. **Seasickness.**—Seasickness, according to Shelmerdine, is the result of three factors acting together or independently—mechanical, mental and the irritating action of the bile in the stomach. The mechanical action is from the constant change in position of the center of gravity, throwing unusual work on the antagonist muscles. Lack of loss of consciousness of involuntary effort has also an effect. The bile ducts are often overfilled, and the shaking up forces it into the intestinal tract, which is possibly suffering from constipation. The bile is often forced back into the stomach in enormous quantities. He summarizes that the pathology of seasickness is first in the presence of bile as a foreign body in the stomach: unnatural, spasmodic, muscular contractions, excessive spasmodic elevations of the chest and diaphragm, and compression of the contents of the abdomen—all causing a negative pressure in the stomach. Nervousness hinders the acquirement of proper balancing powers. He advises prophylaxis by a thorough cleaning out of the system before going on board ship, the use of laxatives, etc. In certain cases of very persistent vomiting, strapping of the chest, which thus restricts its expansion, will tend to quiet it. Calomel in large doses followed by a stiff saline is an excellent remedy, and the bromids may be used if these will stay down. In all cases the bile must be worked off. A seasick person should stay out in the fresh air and should not attempt to resist the motion of the vessel, but co-operate with it. Sea-legs and seasickness are incompatible.

18. **Tuberculosis.**—After some introductory remarks Woodhead takes up the subject of the curability of tuberculosis and refers to the observations of others that tubercular healed foci are frequently found in the lungs of elderly people dying of other diseases. His attention having been drawn to this fact, he took up the search for such evidence and found it in at least one in every three cases that came under his examination. He soon became convinced that even in cases that succumb to tuberculosis there is more or less marked evidence of sturdy resistance, and that failures to meet the attack were due to disadvantageous circumstances. While he holds that the tubercle bacillus is the origin of the disorder, he warns against the assumption that its contact with human tissues necessarily results in tuberculous disease. The tissues must be damaged or weakened and a special mode of entrance be prepared before the tubercle bacillus can do its mischief. For years his hands have been almost daily soiled with the tubercle bacillus, and he has no doubt he has swallowed many and some have made their way into his respiratory tract, but they have never done him any apparent harm because he has carefully

protected abrasions and cuts, and refrained from active pathological work when out of health. There must be some predisposing cause, a soil must be prepared. The routes of the bacillus to the lungs are by way of the air passages and by the lymphatic system. Woodhead points out the resistance of the tissues by throwing out of fibrous tissue, which is an evidence of good reaction. The third way of invasion of the organs by tubercle germs is by the blood. The bacilli are carried from the lesions of the lymphatics to the blood vessels, but all of the three routes are probably more or less coincident; these methods seldom occur alone. In case of phthisis, apical catarrh is generally the first condition noticed, accompanied by congestion and consolidation. If the patient is placed under favorable conditions of nutrition, rest and elimination, the reaction of the tissues is so complete that the dead patch is surrounded and cut off, and if not extensive may be completely cured. Under other conditions, however, it will spread. The small hemorrhages characteristic of the early stage of phthisis are explained by the altered conditions of the vascular circulation, the increased quantity of blood required to meet the want of the proliferating tissues, and they usually occur as the result of some extra temporary strain, and are an indication of the local changes. A patient that has once suffered from tuberculosis has no immunity to subsequent attacks, and we should insist on a continuation of the improved conditions which is advised for the first attack. These, however, Woodhead holds, can be provided by the patient himself in many cases. While sanatorium treatment is of great value in tiding over dangerous early periods of the disease, it is still more valuable in teaching the patient to carry out in his own home the same principles and methods. If he is sent to a special climate, he is apt to give the credit to the climate, and while this may be a factor, there is no fundamental difference between one climate and another as regards the curability of phthisis aside from the greater facilities afforded for open air and pure air treatment.

## Medical News, New York.

*January 2.*

19 *The Management of Typhoid Fever Epidemics. George A. Soper.
20 *Anomalies and Difficulties of Diagnosis in Typhoid Fever. Henry L. Elsner.
21 *Management and Treatment of Typhoid Fever. Egbert Le Fevre.
22 Thoughts on Chlorine and an Antiseptic Technic. Douglas H. Stewart.
23 *Excision of the Frenum Preputti Following Laceration During a Suspicious Intercourse. Charles C. Miller.
24 *Chickenpox Concurrent with Smallpox. Philip D. Bourland.
25 *Morbid Anatomy and Histology of Pulmonary Tuberculosis in Relation to Its General Pathology and Clinical Manifestations. G. Sims Woodhead.

19. **Typhoid Fever Epidemics.**—The duties of the medical boards of health in case of typhoid fever epidemics are enumerated by Soper, who regrets the lack of scientific training in hygiene among physicians. He comments on the value of state oversight in even a local epidemic, as the authority of local boards does not go beyond their municipal boundaries. The number of cases should be thoroughly ascertained and special care taken to detect the mild, unusual and atypical cases, as from these is the greatest danger of spreading. The care of food supplies, use of disinfectants, proper safeguards against urinary infection, etc., are all noted.

20. **The Diagnosis of Typhoid.**—Elsner notices the anomalous cases of typhoid where the symptoms are difficult to determine, some stages of the disease being lacking, the prodromal period being unusually short, etc. The condition of the blood pressure is also noticed and its value, the absence of chills in many cases and of nose bleed, which used to be considered a cardinal symptom, and the possible complication of typhoid fever with other conditions. Malignant endocarditis is often confused with typhoid, as is also gonorrheal endocarditis. The peculiar characteristics of infantile typhoid, usually the shortness of the course due to the absence of extensive deposits in the submucous intestinal tissue, lesser involvement of the glands, etc. He believes that idiopathic remittent fever in children is almost universally enteric. Of course, the value of reaction tests and blood examination must not be overlooked.

21. **Treatment of Typhoid.**—Le Fevre principally emphasizes the importance of individualizing in the treatment of typhoid, and the too common dependence on routine methods.

23. **Excision of the Frenum.**—Miller advocates excision of the frenum in a case of its rupture, especially after suspicious intercourse. He would extirpate it with small curved scissors, and, as the result of extirpation, we have a groove about one-eighth of an inch deep and somewhat wider, which is sutured from up near the meatus back to the corona with continuous catgut sutures. Free oozing will commence, but the sutures quickly control it. The groove unites very rapidly, and if plain No. 1 catgut is used for suture material no further attention is required. It comes away in a few days, leaving the parts healed.

24. **Smallpox and Varicella.**—Bourland gives his experience with an epidemic of smallpox and the concurrence of chickenpox in Lake Linden, Mich., and emphasizes the following points:

1. The concurrence of smallpox in no way caused the course of my cases to depart from that typical of chickenpox.
2. Vaccinated and unvaccinated children showed equal susceptibility to infection, and the course of the sickness was the same in each class. This fact excludes varioloid.
3. None of my patients had ever been exposed to smallpox or had ever had it.
4. No adults were attacked notwithstanding absence of vaccination in a majority.
5. Five of the children exposed had had chickenpox in a previous epidemic, these previous attacks conferring immunity except in one instance.
6. Smallpox and chickenpox are distinct pathological entities, and though in intimate association, neither disease influences in any way the natural history of the other.

25.—See also paragraph 18 above.

## Boston Medical and Surgical Journal.

*December 31.*

26 *Typhoid Fever in Children. (To be continued.) Adolf Baginsky.
27 *Acute Flexion of the Gall-bladder as a Cause of Biliary Colic. Its Relief by Operation. A. T. Cabot.
28 *Some Remarks on Chronic Sphenoidal Sinusitis. Albert E. Rogers.
29 The Case of Louis Bitzer. Edward B. Lane.
30 A Brain Hardened by Kaiserling's Method Showing the Track of a Bullet. Wm. F. Whitney.
31 What Was the Cause of Death? A. Elliott Paine.
32 A New Frame for the Treatment of Fractures of the Lower Extremities. John H. Cunningham, Jr.

26. **Typhoid Fever in Children.**—Baginsky reviews the history of typhoid fever in children as it has been recognized in medicine, noticing that it was formerly considered to be a comparative rarity, but has of late years become known to be of greater frequency and of special interest. It is apparently more rare in infancy than in early childhood, but this is very likely an error of diagnosis, as typhoid in sucklings is often diagnosed as dyspepsia. Further and accurate observation will be required to settle this question. Boys seem to be more susceptible than girls, which Baginsky refers to their greater chances of infection. Typhoid in children is exceedingly easy to transmit, as they are naturally more careless about soiling surroundings. He comments on the probability of its being carried by flies as Vaughan has claimed, and which, he thinks, he has himself observed almost to a certainty. While the greater number of cases occur in the autumn, sporadic instances may appear at any time of the year. It is not yet certainly known how the bacillus affects the organism. It is questionable, he thinks, whether the typhotoxin of Brieger has anything to do with its effects. The various diagnostic reactions and pathology are discussed at some length as also the symptoms, which are often indefinite in children. The temperature is one of the most important aids in the diagnosis. In single cases the course of the fever both in duration and severity may be on a par with the worst cases in adults. The pulse corresponds pretty closely to temperature. During height of the fever it is irregular and intermittent. This irregularity is also observed in the convalescent stage, and the duration of the fever is apparently longer in older children. It seems to increase in duration in patients from one to ten years of age, according to Montmollin's studies. Other symptoms such as coated tongue, somnolence, diarrhea, epistaxis, cough, the agglutination

phenomenon, etc., are somewhat similar to those of adults. (The article is to be continued.)

27. **Biliary Colic.**—Cabot first refers to Fenger's suggestion that biliary colic occurs from obstruction in the biliary passages caused by a bending or kinking of the ducts. The author puts on record two cases which appear to have been caused by acute flexure of the gall bladder about its middle. Both were relieved by operation. In such cases from this experience he would prefer cholecystectomy as a cure for the condition. This was performed in the second case. In the first, fastening the fundus of the gall bladder to the abdominal wall effaced the bend in its body and stopped the attacks of hepatic colic, but it left a sensation of dragging in the hypochondrium which prevents considering the success perfect.

28. **Chronic Sphenoidal Sinusitis.**—Rogers describes his methods of diagnosing and treating chronic sphenoidal sinusitis. He uses a probe for diagnosis, passing it in a direct continuous line from the inferior nasal spine to the middle part of the middle turbinate, not allowing it to go anterior to this line. If the probe passes in a greater distance than 7.5 cm. it is either in the sphenoid, brain cavity or naso-pharynx. If it goes over the turbinate in the middle part, in the direct line mentioned, one is certainly in the sphenoidal cavity. In opening it he removes the anterior part of the middle turbinate and then fractures and removes the remainder, leaving a free and easy approach to the sphenoidal opening. He does not use adrenalin solution except in the after-treatment. In ten days he proceeds to open the sinus, which is done under cocain, with a forceps devised on the principle of Grünwald's down-cutting forceps, but with shorter jaws. His method has given complete relief in eleven cases, the notes of which are reported. A more extensive operation, such as that of Jansen and Luc by way of the antrum of Highmore, has not been necessary in a single case, since he has devised this method.

### Cincinnati Lancet-Clinic.

*January 2.*

33 *Report of a Case in which a Piece of Hickory-nut Shell was Successfully Removed from the Left Bronchus. John C. Oliver.
34 Some Remarks on the Diagnosis of Renal Tuberculosis. James Y. Welborn. Death Returns. B. F. Lyle.
35 The Successful Treatment of Gonorrhea. A. H. King.
36 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

33. **Foreign Body in the Bronchus.**—Oliver reports the case noted in the title and refers to several others in his experience. He thinks the following conclusions express the rational indications for and against tracheotomy in this class of cases:

1. Laryngotomy should always be resorted to when a foreign body lodged in the larynx can not be removed through the natural passages.
2. Tracheotomy may be required by reason of edema of the larynx even after the foreign body has been removed.
3. When the foreign body is impacted at or near the bifurcation of the trachea, a tracheotomy is to be viewed in the light of an aid to exploration.
4. The tracheotomy wound may be permitted to close, or even be closed by sutures, in case the foreign body has been removed.
5. Stitching the edges of the trachea to the integument is to be preferred to the tracheotomy tube in cases in which exploration has not been successful in removing the foreign body.
6. Tracheotomy is by no means always necessary in cases of foreign bodies located at or near the bifurcation of the trachea. Spontaneous expulsion will occur in many such cases unless the foreign body is rough or jagged. Attempts to remove such by instrumental aid through an opening in the trachea are urgently indicated.

### St. Louis Medical Review.

*December 26.*

37 *Goat Milk in Infant Feeding. John Zahorsky.

37. **Goat Milk for Infant Feeding.**—Zahorsky has investigated the dietetic value of goat's milk, reviewing the opinions of authorities and experiences with it. He concludes that it resembles cow's milk in its composition, and is suitable for infant feeding. That infants digest it is well attested, while the possibilities of getting it fresh and uncontaminated give it a distinct advantage over cow's milk for infant feeding.

### American Journal of Obstetrics, New York.

*December.*

38 Tuberculosis of the Female Genitalia and Peritoneum. John B. Murphy.
39 A Pseudohermaphrodite, in which the Female Characteristics Predominated; Operation for Removal of the Penis and the Utilization of the Skin Covering It for the Formation of a Vaginal Canal. J. Riddle Goffe.
40 Obstetric Nomenclature: Suggestions for Its Improvement. C. S. Bacon.
41 *Catarrhal Enteritis in Women Simulating Pelvic Disease, with Report of Cases. Robert T. Gillmore.
42 *Ovarian Grafting. Robert T. Morris.
43 Epidemic Cerebrospinal Meningitis in Children. Samuel S. Adams.
44 *Pregnancy and Crime: A Medicolegal Study. Charles G. Cumston.
45 Ovarian Cystomata, with Report of an Unusually Large Multilocular Ovarian Cyst. Charles R. Robins.
46 Pseudo-vaginismus. G. Kolischer.

41. **Catarrhal Enteritis in Women.**—Gillmore describes a class of cases in which the principal symptoms are anemia and neurasthenia with a subjective impression of disorder in the pelvic organs due to constant pain and soreness in the abdomen, bearing-down pain, backache, etc. The real condition in these cases, however, is catarrhal enteritis, which is relieved by proper treatment. He thinks that it is usually due to dietetic errors. Its pathology is rather obscure, as it is rarely fatal. The diagnosis is usually assured by ocular examination of the stools. The treatment consists: 1, in a selected but generous diet, regulation of the bowels by some form of cascara, and if there is a tendency to obstinate constipation or too free movements, using high colon flushing with mildly alkaline water or normal saline, followed by a quart of water containing 8 c.c. of normal fluid extract of hydrastis. He has had good results with a pill consisting of powdered ipecac, creosote, black pepper, naphthol, and hydrastis. Acetozone suggests itself, but as yet he has not employed it to any extent. In conclusion he insists on the importance of examining the stools in obscure cases which come to the gynecologist for relief.

42.—See abstract in The Journal, Oct. 17, 1903, p. 980.

44. **Pregnancy and Crime.**—Cumston discusses the effects of pregnancy on the mental and moral condition of females. He thinks the judgment and will power may be partially affected, but the sensory or moral disease is limited and only attacks isolated points. He concludes that where guilt is evident pregnancy can hardly be an excuse, but is quite permissible to invoke pregnancy as an attenuating factor in certain cases.

### Annals of Surgery, Philadelphia.

*December.*

47 *Method of Suturing the Prolapsed Kidney. Augustin H. Goelet.
48 *The Gauze-bearing Tape and the Gravity Pad in Pelvic and Abdominal Surgery; Improvements in Technic. John M. Fisher.
49 Traumatic Epilepsy. John C. McCoy.
50 *On the Results Obtainable by Operative Measures in Affections of the Stomach. John B. Murphy.
51 Intestinal Obstruction Following Operation for Reducible Left Inguinal Hernia Due to a Loop of Small Intestine Caught in Treitz's Fossa. Joseph C. Bloodgood.
52 Perforating Gunshot Wound of the Cervical Portion of the Spinal Cord. Report of Case in which Recovery was Secured, with Ability to Walk. Lewis S. Pilcher and B. Onuf.
53 *Local Anesthesia. F. Gregory Connell.
54 *An Experimental Research Into the Temperature Relationship Existing in Shock. Guy C. Kinnaman.
55 Anomalies in the Circle of Willis. With the Report of a Case in which the Communicating Arteries were Absent. Walter C. Howe.

47. **Kidney Suture.**—Goelet's article gives his methods of treatment which have been more or less detailed elsewhere. He says the essential differences between the Brodel suture used by Cullen of Baltimore and published in *American Medicine*, Aug. 2, 1902 (see The Journal, xxxix, Aug. 16, 1902, p. 396), and his own are: 1. That the apex of the triangle formed by the Brodel suture is above, the ends emerging on the surface of the kidney near together. In the Goelet suture the apex of the triangle is below, the ends of the suture emerging on the surface farther apart from each other and brought out and tied on the external surface. 2. The sutures are placed at a greater distance apart, the lower suture at the lower pole, and they include less area of surface. The Goelet suture does not include the lower pole, which is left normally free, and it includes a larger area of surface. Goelet uses silkworm gut and instead of burying the suture in the muscle he brings it to the surface and ties over a pad of gauze.

48. **Gauze-Bearing Tape and Gravity Pad.**—The gauze-bearing tape as used by Fisher is a piece of white tape about an inch and a half in width and of variable length (three or four feet), armed at one end with a long, blunt-pointed needle or bodkin. On this tape the gauze sponges in a laparotomy may

be strung. It has the advantage of doing away with the numerous separate gauze sponges used in abdominal operations. The gravity pad is a large gauze pad having concealed within its folds and near its center, a plate of lead, two by three inches, weighing about half a pound. Instead of a single piece smaller pieces may be quilted in at different points. The pad is provided with a trailer, though this is not essential as only one, and rarely two are required in a single operation. By these appliances he escapes the danger of losing and leaving sponges in the abdominal cavity. They also assist in the Trendelenburg and other positions in holding back the intestines, as weight properly distributed is more useful than bulk for this purpose.

50. **Gastric Surgery.**—Murphy discusses the various operative measures in gastric surgery and sees much encouragement in the results. He reviews the experience and technic of different operators and tabulates their results at different times since the operations were first performed. He emphasizes the importance of the prophylaxis of gastric carcinoma by early attention and operation in case of gastric ulcer, etc.

53. **Local Anesthesia.**—Connell's article is a general review of the subject of local anesthesia by various methods. He points out its advantages as follows: 1. The removal of the danger of death on the table; 2, the avoidance of after-effects of general anesthesia on the heart, liver, kidneys and lungs. Postoperative pneumonia seems to be about as frequent after one kind of anesthesia as the other; the absence of postoperative nausea, vomiting, or unconsciousness or danger of strangulation by fecal vomit. The patient being conscious, he is able to assist the operator. The number of assistants is reduced by one, though it may be convenient to have others at hand to meet the emergencies. There are many cases where local anesthesia is markedly contraindicated, but he holds that it should be used as an adjuvant to, if not a supplanter of, general anesthesia in many cases where the latter is commonly employed.

54. **Shock.**—According to Kinnaman's experiments and studies shock must not be considered as due to a lowering or exhaustion of one bodily function, but the composite result of interference with the blood pressure and respiration, lowering it in both cases, and a marked fall in the body temperature. As it increases in severity the fall in temperature is the most uniform and progressive symptom. The relationship between the lowered body temperature and shock is evidenced by considering: 1. That in one of the series of cases he reports the fall in temperature was the sole cause of the shock; 2, that where by continuous bath the temperature fell only 1 C., the respirations were increased instead of diminished, and the fall in the blood pressure was lessened. 3. That by raising the body temperature previously lowered in shock, the respiratory rate was increased and the blood pressure raised. The relationship he expresses thus: (*a*) A sufficient fall in body temperature can cause a decrease in the respiratory rate and a marked fall in blood pressure which, together with itself, we designate as shock. (*b*) Conversely, a limiting of the fall limits the fall in pressure and prevents a fall in the respiratory rate, thus limiting or preventing shock. (*c*) Antagonistically, a rise of temperature causes a rise of blood pressure and the respiratory rate (reduced in shock), thus ameliorating all the symptoms. Thus of the three factors temperature takes the first place by its power of production, its power of limitation and power of amelioration of the composite condition—shock.

### American Gynecology, Baltimore.

*November.*

56 *What Is Conservatism in Pelvic Infection? John O. Polak.
57 The Management of Occipito-posterior Positions of the Vertex. James D. Voorhees.
58 A Case of Inversio Uteri Puerperalis Reduced by a Modified Kuestner's Method. Max W. Myer.
59 *Pathology and Treatment of Gonorrhea in Women. A. P. Stoner.

56. **Conservation in Pelvic Infection.**—Polak believes in early intervention in pelvic infection; there is a time, could we but recognize it, when intervention will prevent further invasion. From his experience with 79 cases, several of which he reports, he thinks that the best chance of saving life and minimizing the sequelæ is obtained by proper surgery, and he has found Pryor's iodin treatment of great value in these cases. Of the 70 patients operated on, 58 have been kept under observation from six months to three years, and 5 reoperated on; 52 have had no further surgical treatment, and 39 of this number are practically recovered, having no pain or gross lesion requiring any attention. None have had subsequent pelvic peritonitis. Six complained of severe dysmenorrhea, but are free from pain between periods. Four in which the lesions were of gonococcal origin, while having no pain, complain of menorrhagia and have large, thickened and more or less fixed uteri, while 3 women have appreciable thickening in one tube. Of the 9 gonorrheal cases refusing operation during the acute attack, all have come under observation in one or more attacks of pelvic peritonitis, and 2 have well-defined pus tubes.

59. **Gonorrhea in Women.**—Stoner holds that gonorrhea, while a persistent and invading infection, is in the majority of cases overcome by the antitoxic elements of the cells, and may be called a self-limited disease. During the early stages cleanliness and rest are best. The trouble is generally over-treated. If the patient can be placed in bed and given a liquid diet and the infected parts kept thoroughly cleansed by sterile water, the results will be better than those obtained by some of the more active measures often employed. This use of sterile water does not imply the vaginal douche, which he thinks in many cases helps to spread the infection. During the first few days no further treatment is necessary except rendering the urine neutral and less irritating. After the second week a 2 to 4 per cent. solution of protargol or 15 per cent. of argyrol may be instilled into the urethra and also used in the uterine cavity. Curettage of the uterus is not advisable in the acute stages when the tubes and ovaries are infected. In the second stage methylene blue or urotropin may be used, and a plain diet prescribed, consisting largely of milk. The patient should rest absolutely, or at least avoid hard manual labor during the first week or ten days. Should the infection extend to the uterus the tubes are almost sure to be involved. If salpingitis develops, rest in bed becomes imperative. Frequent hot douches, ice bags or turpentine stupes should be utilized to control the pain. Much must be left to Nature but she is frequently unable to cope successfully with the infection until the peritoneum is reached and an exudate thrown out which, for the time being, prevents further inroads. Then the intervention of the surgeon and removal of the diseased organ is called for.

### Therapeutic Gazette, Detroit.

*December 15.*

60 *Regarding Croupous Pneumonia, Especially Its Treatment with Carbonate of Creosote. J. A. Scott and Charles M. Montgomery.
61 *Thirty Years' Experience with Crude Petroleum as a Therapeutic Agent. A. D. Binkerd.
62 *The Question of Priority as to Childbed Fever—Holmes vs. Semmelweis. Simon Baruch.
63 Headache as a Symptom and Its Treatment. Ellice M. Alger.
64 The Oil-massage Treatment of Abdominal Tuberculosis. Duncan Turner.

60. **Pneumonia.**—Scott and Montgomery have experimented with the use of creasote in the treatment of this disease, and find that it causes no stomach irritation and that the degree of toxemia, in all cases, barring the fatal ones, was mild. That in the cases treated, pseudocrises were common but had no relation to the crisis or mortality. That the mortality percentage (14.9) secured in 67 cases treated with carbonate of creosote does not corroborate the unusually low figures of Wilcox, Van Zandt and others, nor does it prove that the results are due to the treatment by creosote carbonate, as equally good results have been secured in past years by other methods. The study of the clinical effects of carbonate of creosote should be continued, the dosage increased and the effect on the toxemia carefully watched. Brief reports are given of the fatal cases.

61. **Crude Petroleum.**—Binkerd has used the finest grade of crude petroleum and with the best results in all forms of acute affections of the respiratory tract in his practice at West Monterey, Pa. It relieves the labored and stridulous breathing, cyanosis disappears and expectoration is facilitated, the fever subsides and the patient goes on to convalescence and prompt recovery. He experimented on himself when in bad health from malassimilation, hemorrhoids and rectal prolapse, using crude

or entirely suspended. Examination of the livers of 3 diabetic subjects has confirmed this assumption. Not a trace of glycolysis could be detected in the liver in 2 of the cadavers, and only minimal traces in the other, and this was precisely that of a subject with mild diabetes, who had succumbed to intercurrent pneumonia. Jacoby has also mentioned the entire absence of evidences of glycolysis in the liver from a severe case of diabetes. This material is too limited for general deductions, but in future the liver of diabetics should be tested for glycolysis, both alone and with addition of pancreas. From the therapeutic point of view, these new facts suggest the advisability of organ therapy with the glycolytic ferment, plus pancreas extract. This has been impossible hitherto on account of the difficulty of isolating the glycolytic ferment in a soluble form. When this is accomplished, then we can hope to benefit mild and medium cases of diabetes by injection of the ferment, plus the specific substance from the pancreas. This will promote the sugar destruction in the tissues, especially in the muscles, to an extent sufficient to allow the ingested carbohydrates to be utilized for heat and energy production without calling on the albumin of the body. Even in severe cases some benefit will undoubtedly be derived if these premises are correct. This treatment with the glycolytic ferment will probably not affect the other disturbances in metabolism entailed by the loss of pancreas functioning. It is possible, however, that the pancreas may contain other substances able to influence these other disturbances. This hypothesis is suggested by Jacoby's experience in a certain case in which after administration of 5 gm. pancreas tablets a day the elimination of ammonia which had previously been 2.8 to 3.5 gm. dropped to 1.5 gm. No influence on the elimination of sugar could be detected. In conclusion, Blumenthal comments on the promising outlook for further research on the active substances in the pancreas and their utilization in therapeutics.

65. **Morphin-Scopolamin Narcosis.**—Volkmann describes his experiences with this method of narcosis which he qualifies as a great advance.

68. **Polyvalent Antistreptococcus Serum.**—Tavel gives the details of a few cases out of his experience in which the abdomen had been contaminated with streptococcus pus from some process and the laparotomy wound had been infected. The possibility of such an infection had not been thought of at first, as the excised organs were found sterile. Prophylactic injection of the polyvalent serum was followed by smooth recovery. In other cases the symptoms recurred after suspension of the serum treatment and vanished again on its resumption. As a particularly demonstrative case he cites that of a young man with nephritis and pure cultures of streptococci in the urine. After three weeks of gradual improvement the patient was burned out and caught cold, followed by pleuritis, bronchopneumonia and peritonitis, with symptoms of severe general sepsis. As the salicylates, baths and quinin had no effect, 10 c.c. of the serum were injected, and the next day the patient felt as if new born. The symptoms returned later and a second injection was made the fourth day, after which the temperature dropped as in a crisis, and the patient rapidly recovered. The temperature fell immediately after the first injection from 40 C. to normal, but then gradually rose again, subsiding at once and permanently to normal after the second injection. His clinical and experimental experiences have amply convinced Tavel that the polyvalent antistreptococcus serum, prepared without previous passage through animals, may be actually regarded as a specific against streptococcus infection. The lack of adequate dosage, the difficulty of producing a serum to fit all cases, and the circumstance that the serum, as a specific serum, contains only the amboceptors which stimulate phagocytosis or fasten the complements to the bacteria, while it does not contain the complements themselves which are sometimes lacking in advanced stages of infection—these are the reasons why it is not invariably successful. He adds that if we can succeed in stimulating phagocytosis and in the severer cases supply the missing complements along with the specific serum, then we can count on successfully combating the disease process even in the severest infections. (Tavel's serum was described more fully in The Journal, xxxix, page 731, 1902.)

### Mitteilungen a. d. Grenzgebieten der Med. u. Chir., Jena.

*Last indexed page 67.*

71 (XII, No. 4.) *Affections of Red Marrow in Acute Infections. E. Fraenkel (Hamburg).—Ueber Erkrankungen des roten *Knochenmarks*, besonders der Wirbel und Rippen, bei akuten Infektionskrankheiten.
72 Connective Tissue Tumors of Stomach. R. Alessandri (Rome).—*Fall von gestieltem Magen-Sarkom*, nebst Bemerkungen über einige Bindegewebsgeschwülste des Magens.
73 Curvature of Spine in Syringomyelia. Borchard (Posen).—Die Verbiegung der Wirbelsäule bei der S.
74 *Value of Tendon Transplantation in Treatment of Choreatic Forms of Infantile Cerebral Paralysis. A. Wittek (Graz).—Die Bedeutung der Sehnentransplantation für die Behandlung choreatischer Formen der infantilen Zerebrallähmung.
75 Aetiologische Studien über die Epityphlitis. D. v. Hansemann.
76 *Bakteriämie und Sepsis. J. Möller (Altona).

71. **The Red Marrow in Acute Infections.**—Fraenkel has continued his bacteriologic and histologic studies of the red marrow of spine and ribs in acute infectious diseases. After the subsidence of the acute local process the bacteria are liable to persist in the marrow. The pathologic changes in the marrow are the expression of the defensive reaction to the intruding and proliferating bacteria—giant cells, lymphomata, extravasations and cell necrosis. In 18 cases of disease due to the *Diplococcus lanceolatus*—including 13 of pneumonia—the germ was found constantly in the marrow of the vertebræ, more rarely in the ribs. The number of bacteria in the marrow paralleled that in the blood, contrary to what is observed in typhoid fever. The presence of the bacteria in the blood does not seem to affect the prognosis of pneumonia. Death seems to be due more to the action of toxins. In 17 cases of affections due to the streptococcus these germs were found constantly in the marrow. In one of the 7 cases of erysipelas in this group the blood swarmed with the streptococcus and *Staphylococcus aureus*. In 10 cases of scarlet fever streptococci were found in the marrow in every case with the exception of one in which the patient succumbed the second day. In staphylococcus affections (phlegmons, acute spontaneous osteomyelitis), the cocci were found constantly in the marrow. In 13 cases of diphtheria of the throat the marrow was found to be sterile in 3, and diphtheria bacilli were found in it in only one instance; in the others streptococci were constant. In 3 cases of pulmonary phthisis cocci were found constantly in the marrow, but never the tubercle bacillus. In 6 cases of peritonitis the causal agent was found in the marrow in all but one. Four cases of various other affections were investigated. In one of them—a fatal, intermittently febrile mastitis—no cultures could be derived from the marrow. Fraenkel was unable to discover any laws governing the penetration of bacteria into the marrow or the time required. He defends his research against the possible aspersion that his findings might be postmortal phenomena.

74. **Tendon Transplantation in Infantile Cerebral Paralysis.**—A child nearly 10 years old exhibited a severe spastic paraplegia, especially marked in the legs, with choreic and athetotic symptoms, consecutive to encephalitis three years before. He was treated by tendon transplantation. The tendons of the biceps, semitendinosus and semimembranosus were detached and transplanted in the upper edge of the patella, with extension of hip and knee joints. The same operation was then done on the other leg. The results were excellent. The spasmodic movements were improved at the hip joint and completely banished at the knee, while they persisted unmodified at the ankle and toe joints which had not been operated on. The child was able to flex and stretch the knee, previously impossible. Wittek ascribes the improvement to the interposition of new centripetal stimuli by the transplanting of the tendons.

76. **Bacteriemia and Sepsis.**—Möller was able to save 3 out of 13 cases of sepsis in which the blood contained bacteria. One patient was treated with daily injection of 40 c.c. of Marmorek's serum, in addition to the usual saline infusion and extensive surgical intervention. He reports an epidemic of 149 cases of scarlet fever with mortality of 45 per cent. He found streptococci in the heart blood in 11 out of 17 scarlet fever

cadavers, but not until after the third day. Thirteen of the patients were treated with Aronson's serum—all severe cases—with 3 recoveries.

### Münchener med. Wochenschrift, Munich.

77 (L. No. 49.) Ueber eine neue Methode der quantitativen Pepsin-Bestimmung nebst Bemerkungen über die Tryptophan-Reaktion und das Plastein bildende Ferment. F. Volhard (Riegel's clinic, Giessen).
78 *Ueber Psychosen bei Tabes. E. Schultze (Bonn).
79 *Vessel Crises and Their Relation to the Gastric and Abdominal Crises of Tabetics. J. Pal (Vienna).—Gefässkrisen, etc.
80 *Eine Anreicherungs-Methode für Typhus- und Paratyphus-Bacillen. O. Lentz and J. Tietz (Idar).
81 *Limits of Application of Hypnotic Sleep in Psychotherapy. .—Die Grenzen der Verwendbarkeit in der Psychotherapie.
82 * Schmilinsky (Hamburg).—Bemerkungen zum Nachweis und der Bedeutung makroskopisch nicht erkennbarer Blutbeimengungen zum Inhalt von Magen und Darm.
83 Zur Behandlung des Abortus. M. Nassauer.
84 Truppen-hygienische Erfahrungen in China. Wolffhügel. (Commenced in No. 47.)
85 (No. 50.) Formation of Antibodies. L. Jacobsohn.—Ueber Antikörperbildung nach Injektion von Zymase.
86 *Action of Blood and Bile on Fermentation Processes. M. Hahn (Munich).—Ueber die Einwirkung von Blut und Galle auf Gärungsvorgänge.
87 Einige Komplement-Fragen. S. Simnitzky (St. Peterburg).
88 *Value of Blood Count in Appendicitis. L. Rehn.—Ueber den Wert der Blutkörperchenzählung bei den akuten Entzündungen des Wurmfortsatzes.
89 *Zur Frage der post-traumatischen Nephritis. S. Oberndorfer.
90 *Ueber Bauchfell-Tuberkulose (of peritoneum). C. Thoenes.
91 *Erfolgreiche Behandlung eines inoperablen Sarkoms mittels Röntgen-Strahlen. J. G. Chrysospathes (Athens).
92 Power of Binding Alkali and Titration of Gastric Juice. F. Volhard.—Ueber das Alkalibindungsvermögen und die Titration der Magensäfte. See Ibid. in No. 49.
93 Phonendoscope in Outlining Heart. A. Smith and J. Hofmann.—Zu "Moritz, über die Bestimmung der Herzgrenzen nach Smith mittels des Phonendoskops."
94 Centennial of Scientific Society. L. W. Wolffberg (Breslau).—Hundertjahfeier der Schlesischen Gesellschaft für vaterländische Kultur.
95 Remarks on the Late Sensational Case of Sadism. A. Forel (Zurich).—Zum Fall Dippold.

78. **Mental Disturbances in Tabes.**—Schultze describes 2 cases of tabes associated with typical senile melancholia in one, and in the second with dementia precox paranoides. The tabes preceded the psychosis in the first case, but in the second the psychosis had existed four and a half years before the tabes and persisted unmodified by the latter. He regards the psychosis in each case as a casual accompaniment of the tabes and liable to have occurred without the latter. As a rule, when mental disturbances are observed with tabes they are usually of the nature of paralysis. The presence of the tabes alone should not impose the diagnosis of paralysis. Both his patients were syphilitics, and he quotes parenthetically a certain neurologist, who stated that he knew of but a single exception to the law of the connection between syphilis and tabes.

79. **Vessel Crises in Tabes.**—Pal comments on a fact which has hitherto escaped attention, namely, that the gastric crises in tabes are a vasomotor phenomenon. During the crisis of pain the nerve ganglia are extremely sensitive, and he argues that the true seat of the pains is not in the stomach, intestines or heart, but in the sympathetic plexuses. He cites Buch to the effect that in the nervous gastralgia of gastroptosis the pain is referred to the stomach, yet in reality the sensitive aching point can be located at the solar plexus. He further demonstrated that except for the site, the symptoms of angina pectoris coincide with those of nervous gastralgia and enteralgia. Pal has recently announced his discovery that contraction of the smaller vessels of the intestines is liable to induce intense pain. Riegel has recently also called attention to the connection between the pains and the tension of the vessels in lead colic. The intestinal walls have no sensory nerves, but Pal has established by experimental research that contraction of the peripheral vessels in the abdominal viscera interposes an enormous resistance to the blood wave in them. The arterial vessels in the mesentery are in consequence unable to empty themselves; the blood accumulates and they become distended, rigid and tortuous, pulsating violently and pressing on the surrounding tissue. These processes excite the sensory apparatus in the mesentery and especially the extremely sensitive solar plexus, which is further excited by the behavior of its own vessels. He has further established that the major gastric and abdominal crises in tabes are accompanied by a considerable increase in the tension of the vessels, in some instances fully 150 per cent. of the previous tension. He has discovered the still more significant fact that these processes in the vascular system which entail the exalted tension are primary and the cause of the pains in the crises. The attacks of pain do not commence suddenly; their development can be watched after the onset of the extraordinary tension in the vessels. The proof of these affirmations is afforded by the fact, which he has amply established, that it is possible to arrest the pain and the other symptoms of the crisis by reducing the tension of the vessels. It is immaterial whether the tension is combated by internal or external measures, or whether the reduction is accomplished by some intercurrent attack; all that is necessary is the lowering of the vascular tension. If the reduction is only transient the return of hypertension is accompanied by a renewal of the pains. Acute hypertension of the vessels is liable to induce symptoms which he groups as (1) headache and vertigo, (2) transient focal manifestations (amaurosis, asphasia, transient paralysis), and (3) loss of consciousness and convulsions. The first group usually accompanies the crises of tabes and the other groups are observed exceptionally in it, as likewise in lead colic, acute uremia, eclampsia and other processes which, although composed of dissimilar elements and proceeding from dissimilar sources, yet possess in common a hypertension of the vascular system. And it is to this hypertension that therapeutic intervention should be addressed. Treatment varies for each, as some of the conditions are essentially different in each.

80. **"Enriching" Method of Cultivating Typhoid and Paratyphoid Bacilli.**—By the technic described scanty bacilli were induced to multiply 350-fold, and enabled the correct diagnosis to be made in 8 out of 20 positive cases in which it would have been impossible by any other known means. These were the results of 180 single examinations of stools or urine, the other members of the family being always examined with the patient. The technic for the typhoid bacillus is stated to be the simplest and best yet offered, and ideal for the paratyphoid bacillus. The stool is mixed with twice the amount of salt solution, and .1 to .2 c.c. are distributed with a glass spatula over a malachite-green agar plate. The spatula is then transferred to a litmus-lactose agar plate as with the Drigalski-Conradi technic. After twenty hours in the incubator the blue plates are examined first. If no typhoid colonies agglutinating with typhoid serum are discovered on them, or on the green plate, about 2 c.c. of bouillon or salt solution are poured over the plate and a loop with four or five of the most suspicious looking colonies is transferred to two large litmus agar plates. They are then examined again for typhoid and paratyphoid bacilli after a sojourn of sixteen to twenty hours in the incubator. No other bacteria grow on 1/4,000 or 1/6,000 malachite green so vigorously as the paratyphoid bacilli. The agglutinability is somewhat reduced by this technic, but it is regained after transference to the blue plate. The malachite green inhibits or retards the growth of all other bacteria except the dewdrop colonies of alkali-forming bacilli, and these are readily differentiated.

81. **Limitations of Hypnosis in Therapeutics.**—Stegmann ranks hypnosis on a par with other tried and valuable therapeutic measures, although far from a panacea. Its limitations are sharply defined. He thinks that persons with normal psyche are the best subjects, as the effect produced is permanent, while it soon wears off with subjects of hysterical character or weak wills. Functional disturbances are the only ones that can be directly treated by it with success, and it is not the hypnosis but the suggestion which cures. The alterations in the psychic functions may in turn induce organic changes, and thus the hypnosis may indirectly benefit the latter. He has found it a particularly valuable aid for inducing sleep in exhaustion from insomnia, in nervous headache, in alcoholism, and especially in cases of disturbances in the innervation of the heart, respiratory and digestive organs and the urogenital system, although it can be successful only when,

as emphasized above, the disturbances are functional, not organic. Hypnotic sleep has a remarkable effect in sharpening the memory, and this property can be successfully utilized to ascertain the causes of puzzling disturbances. He describes a number of cases of delirium tremens cured by hypnosis, but points out that the subjects were men of normal character, temporarily obscured, but not perverted, while this treatment invariably failed in shallow, hysterically inclined subjects.

82. **"Occult" Blood in Diagnosis of Stomach and Intestinal Affections.**—Schmilinsky qualifies the "occult" blood test as the most important contribution of late years to the diagnosis and prognosis of certain gastro-intestinal affections. He states that the technic of spectrum analysis is much facilitated by transforming the hemoglobin into hemato-porphyrin, which is easily accomplished by adding a few drops of concentrated sulphuric acid to the diluted feces. If the fluid is in a vial with flat walls, the hemato-porphyrin can then be readily distinguished in the spectrum. He asserts that in applying the guaiac test the gradations of tint up to the blue are as characteristic as the blue itself. The scale of tints is first a deep green, then a peculiar changeable tint varying from green to a reddish-brown tint. This becomes more decided and blends into a violet in which first the red is more prominent, until finally the blue predominates. In case of mere traces of blood this scale of tints may not be entirely completed, but any step of the scale is as characteristic as the final blue. He advises that the patient should avoid all medicines, meat and vegetables containing chlorophyll for three days. On the third day the intestines should be evacuated with a very mild saline or with castor oil. He prefers the feces to the stomach content for this test, and seldom uses the latter except when a control is urgent. Beside ulcer and carcinoma, he thinks that the occult bleeding is liable to be encountered in cases of severe motor disturbances. The occult blood is peculiarly valuable for differentiating cases of gastric cancer in which no tumor can be palpated and the motor function is still good. Absence of the occult blood or its disappearance after lavage of the stomach and dieting, renders a malignant process improbable. This is especially valuable for the differential diagnosis between carcinoma and ulcus pylori. (Boas' recent communication on the subject was reviewed on page 1565 of the last volume of The Journal.)

86. **Action of Blood and Bile on Fermentation Processes.**—Hahn's article is practically a sequel to Jacobsohn's, just preceding. Hahn states that the insignificant results obtained in attempts to produce an antiserum with enzymes are due, he thinks, partially to the defective absorption, but chiefly to the binding and destruction of the injected ferments by the carbohydrates and albuminoids circulating in the blood.

88. **Blood Count in Acute Appendicitis.**—Rehn denies that the blood count is of value for the diagnosis or prognosis of acute appendicitis. Before there is much leucocytosis the patient's fate is usually decided. He tabulates 19 cases in which the blood count was followed by operation. In 2 there was hyperleucocytosis of 28,000 and 40,000, six and thirteen days after the onset of symptoms, and the diagnosis of appendicitis with abscess formation was confirmed by the immediate operation. In 5 the conditions were found to be identical, and yet the leucocytes numbered only 12,000 to 15,000, six to twenty days after onset. In 4 other cases with conditions identical, the leucocytes numbered only 8,000 to 10,000 four to twelve days after the onset, but an abscess was found as in all the other cases above. All the patients recovered after operation. In 6 cases of diffuse peritonitis only one showed leucocytosis of 19,000 and the others had only 11,000 to 14,000 one to nine days after the onset. The only case in this group that did not terminate fatally had a leucocytosis of 14,000. In 2 other cases of diffuse peritonitis, one patient with 8,000 leucocytes the first day after onset recovered, while the other, with 10,000 the fourth day, succumbed. Rehn advocates operating in every case of "fresh perityphlitic tumor."

89. **Post-Traumatic Nephritis.**—Oberndorfer reports a fatal case of acute fatty degeneration of the parenchyma of the kidney which was observed in a restaurant keeper 49 years old. Twenty years previously he had had a brief, transient renal hemorrhage and ten years later had lost a large amount of blood from the amputation of a finger. Otherwise healthy. The symptoms of nephritis developed after an insignificant trauma. In descending the stairs he overlooked the last step and stepped down heavily with his right foot on the floor of the hall. He experienced at once great pain in the leg and could not walk. It was still painful and stiff the next day, and the patient was very restless, with complete insomnia and pulse 120, regular, but small and weak, no appetite. He grew constantly weaker and symptoms of pronounced nephritis became evident the eighteenth day, with death in five days. The pelvic muscles were found lacerated, with considerable extravasation.

90. **Tuberculous Peritonitis.**—Thoenes summarizes the results of operative treatment of tuberculous peritonitis in his experience at Hamburg in the statement that 10 out of 21 cases were cured by the intervention. This is an average of 48 per cent. The 10 cases without adhesions were all cured but 2, but only 2 were cured in the 11 cases with adhesions. The Göttingen statistics are still more favorable, having 12 cured out of 19 with serous exudate and 3 out of 6 with adhesions. That is, 60 per cent. recoveries in all—15 out of 25 cases. The general average in the literature is 61.3 per cent. recoveries in the form with serous exudate, that is, 114 cases out of 186; 30.6 per cent. recoveries in the 55 cases with adhesions, and a general average of 54.1 per cent. recoveries—132 cases out of 244. He states, on the other hand, that the published statistics of internal treatment alone show only 38 recoveries in 82 cases, an average of 48.2 per cent.

91. **Successful Treatment of an Inoperable Sarcoma with Roentgen Rays.**—[This communication attracts attention—aside from its subject—as our confrère in Athens, Greece, seems to be so familiar with American contributions and quotes extensively and almost exclusively from The Journal and other American medical papers, although he gives due credit to the French and Germans. His therapeutic efforts were evidently based on the work of Americans.—Ed.] The patient was a woman of 35, and the tumor in the right hypogastrium was found at the laparotomy to be an inoperable, round-celled sarcoma. Cachexia was already marked. Five months after clinical healing under $x$-ray treatment, the patient returned for advice in regard to impending obesity, which fact emphasizes the completeness of the cure attained.

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# Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. *A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.*

Organic and Physiologic Chemistry. A Manual for Students and Practitioners. By Alexius McGlannan, M.D., Associate Professor of Physiologic Chemistry, Instructor in Clinical Laboratory, College of P. and S., Baltimore. Series Edited by V. C. Pedersen, A.M., M.D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia of the New York Polyclinic Medical School and Hospital. Illustrated with 9 Engravings. Cloth. Pp. 246. Price, $1.00. Philadelphia and New York: Lea Brothers & Co.

Treatment of Neurasthenia. By A. Proust, *Professor à la Faculté de Médecine de Paris*, and Gilbert Ballet, *Professor agrégé à la Faculté de Médecine de Paris Medecin de l'hopital Saint-Antoine*. Translated by Peter Campbell Smith, L.R.C.P., L.R.C.S., Edin., L.F.P.S., Glasg. Cloth. Pp. 213. Price, $2.00. New York: Edward R. Pelton. 1903.

The Practical Care of the Baby. By Theron Wendell Kilmer, M.D., Associate Professor of Diseases of Children in the New York School for Clinical Medicine. Cloth. 12mo. Pages, xiv-158, with 68 Illustrations. Price, $1.00 net, delivered. Philadelphia: F. A. Davis Company.

Anatomy Applied to Medicine and Surgery. By D. E. Mundell, B.A., M.D., Professor of Applied Anatomy, Faculty of Medicine, Queen's University, Cloth. Pp. 499. Price, $3.00. Kingston: Printed at the British Whig. 1903. New York: E. R. Pelton.

The Practitioner's Guide to the Diagnosis and Treatment of Diseases of Women. By Gustavus M. Blech, Professor of Operative Surgery, Jenner Medical College. Cloth. Pp. 112. Price, $1.00. Chicago: M. Robertson & Co. 1903.

The Transactions of the Society of Anesthetists. Volume VI. Cardboard. Pp. 86. London: John Bale, Sons and Danielsson, Ltd. 1903.

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## Address.

### THE DOCTOR IN POLITICS.*

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CINCINNATI.

An invited speaker, when contemplating the demands of propriety with which he is about to be confronted, experiences the conflicting emotions of certainty and uncertainty. He is certain, for instance, as I am certain this evening, that he is the recipient of a conspicuous honor in being asked to engage the attention of his colleagues in a learned profession; and he is equally certain, as I am this evening, that he owes his acknowledgments of profound gratitude for the distinction that has thus been conferred on him. But unfortunately, at this point, and in the absence of an assigned topic, his feeling of equanimity deserts him, for if there is one thing more than another that he does not know, it is which subject, within the range of his limited capacities, will appeal with greatest interest and effectiveness to an audience that is familiar with all subjects. I have gone through the reflections enforced by this predicament, and in concluding to discuss the relations of doctors to the general life with which they are surrounded and of which they are a part—or, more specifically, the doctor in politics—I must offer an explanation which may at the same time serve as an apology. The explanation is to be found in the fact that I, like other objects in nature, when left to my own inclination, generally follow in the direction of least resistance, which declaration divested of its enigmatical features, means that by virtue of my accidental connection with the great work of organization in our profession, and by virtue of my present position as chairman of our National Committee on Medical Legislation, I have been brought face to face with this very theme. At the same time I feel that in discussing it here to-night I am simply carrying coals to Newcastle; for, if I were to say that I felt otherwise I would intimate that, here in Kansas City, there are neither doctors nor politics, which, I hasten to assure you, are two suspicions to which you have never been subjected.

#### "DOCTOR" AND "POLITICS."

Now, it will be assumed, naturally and correctly enough, that, on this occasion and in this presence, I use the word "doctor" in its popular significance as the synonym of one who, whether physician or surgeon, is qualified by education and law to practice the healing art. At the same time, I do not wish to lose sight of the fact, which I really wish to emphasize, that a doctor is not only one skilled in a profession, but should mean one who, in addition, is a learned man, and one who, moreover, has both the capacity and the inclination to teach others.

If, however, the word "doctor" demands definition here in the presence of doctors, how much more does the word "politics" need to be defined in the presence of men, every one of whom, as occasion offers, doubtless protests that he knows nothing about politics and that he takes no part in public affairs? First, then, let me say that I do not employ the word in its restrictive sense to imply activities calculated to influence and control the electorate by unworthy means to equally unworthy ends. The meaning that I attach to the word is, rather, the antithesis of this, and embraces a knowledge and practice of that science which, beginning with the intelligent exercise of the rights of citizenship, comprehends nothing less than the regulation of the nation, by lawful means, for the conservation of its safety, peace and prosperity. Within the purview of this science some such subordinate themes as the electoral franchise, the organization and management of parties, the natural laws of politics, abstract politics, the practical management of the affairs of state, political economy, police or municipal regulation, positive or constitutional law, the practical law of nations and even the science and art of diplomacy.

#### CIVIC RELATIONSHIPS OF THE DOCTOR.

What, then, you will inquire, in the light of these definitions, are we to recognize as the relationship, natural or otherwise, between doctors and politics? That the two are related, in a more or less fundamental way, becomes at least vaguely apparent when we reflect on the general unity of things; when we realize that nothing exists that is not related to something else, and this, in turn, to still something else, and so on until all things—arts, science, life itself—are bound together in an indissoluble whole. The constitution of the social fabric, of which the doctor is an integral element, furnishes a special application of this generalization. But it is not necessary to go into a critical analysis of the cosmos to discern the more intimate character of this relationship. We may get at the subject rather more directly by observing, first, that the relationships of the doctor, in point of knowledge, are as the relationships of his science. Thus, for example, his knowledge of human structure and of human function gives him a certain conception of structure and function, and the correlation of the two, as manifested in every phase of organic life; while his study of vital phenomena as modified by conditions, his accumulation, comparison and classification of facts, enable him to arrive at a conception of fundamental law, of natural law, of which all constitutional or statutory laws are but attempted adaptations. We make another approach to the subject if, in the next place, we consider that the special relations of the doctor are as the special relations of his profession. These relatyphoid at Plymouth, Pa., Ithaca, N. Y., and the last, at this very time, at Butler, Pa., each one of which was entirely and easily preventable under adequate laws and efficient executive administration. The necessity for inspection, by constant patrol, of all sources of general water supply; in fact, the protection of all the sources of life from the contaminations now being perpetrated, are subjects that the medical profession must bring home to the popular intelligence and the popular conscience.

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* An address delivered before the Kansas City Academy of Medicine.

### SOME PRESSING RESPONSIBILITIES.

Then there are some responsibilities that we must recognize as being constantly before us. Thus, the status of the medical service in both the Army and the Navy and under the Bureau of Public Health and Marine-Hospital Service, must always be the object of interested concern to physicians in civil life, if for no other reason than that the demonstrated efficiency or inefficiency of such service is accepted, in a degree, by the public as a criterion of the efficiency or inefficiency of the medical profession in general. This was lamentably demonstrated during the Spanish-American war when the flower of American manhood, assembled in a salubrious climate, fell victims to preventable disease and died in such numbers that the record must forever remain one of the blackest pages in our military history. This calamity, calamity if not crime, resulting as it did from the arbitrary course of the commanding officer, Gen. John R. Brooke, in disregard and offensive disregard of the advice of his sanitary officers, was at once charged by the public to the inefficiency of the medical corps. "Where is your boasted sanitary science?" "Where is your progress in the art of curing?" were the questions impertinently asked of doctors all over the country. Happily, the contrasting picture was furnished by a representative of our own profession, Dr. Leonard Wood, who, as commanding officer in the field, at the head of troops in the insalubrious climate of Cuba, made a record for the healthfulness of his command that must remain an object of pride and emulation; and who, subsequently, as military governor successively of the pestilential cities of Santiago and Havana, redeemed them to health, to commerce and to civilization—a conspicuous service for which, if for no other reason, he deserves the gratitude not only of our own profession, but of the Congress and the country. The efficient service of Surgeon-General Wyman, who, at the head of the Public Health and Marine-Hospital Service and in connection with state health authorities, prevented the invasion of the country by the bubonic plague, is another instance that has helped the medical profession to retrieve the prestige it unjustly lost in consequence of the Brooke blunder at Chickamauga. These examples are enough, however, to show why, from selfish, if for no other reasons, the medical profession must always regard the interests of its representatives in the public services as its own interests; why their business must, to an important extent, always be regarded as its business. I hasten, however, to state that the medical profession, while not relinquishing the right of initiative, will not manifest this interest by obtrusive meddling in the administrative details or in matters of policy, but that so far as is now apparent, it ought chiefly to promote such suggestions and requests for congressional action as may emanate from the heads of the respective services.

There are, however, in addition to the foregoing demands for the consideration of the medical profession, a number of others pertaining to the other departments of government. Thus, for example, the Department of Agriculture has, at different times, brought forth recommendations relative to measures of deep concern to the public health. Some of these recommendations, notably those relating to the animal industry and those concerning entomologic problems, to say nothing of those calculated to protect our food supply, are of decided interest to physicians and have already been crystallized into laws. A pending recommendation relative to a complete survey and classification of the medicinal flora of the United States and insular dependencies, with determination of the alkaloidal constituents and constitutional effects of each plant—is one that appeals to the physician, not only because it may enrich his remedial resources and thus benefit humanity, but because, in its economic and commercial aspects, it is fraught with great possibilities. Another recommendation that has emanated from the Department of Agriculture is one providing, by means of analysis, assays, inspections and certification for the purity of all pharmaceutical and proprietary medicines, exposed for sale in the United States, and for a laboratory in which to carry on the work. That there is a necessity, and a pressing necessity, for such a bureau is apparent to every physician who is familiar with the unsatisfactory if not deplorable state of sophistication in medical supplies; that the regulation of this condition is a proper function of government, and that it can not be done by any other than governmental agencies seems to be indicated by the uniformly disastrous experience of the medical profession in attempting to control other irregularities by voluntary means; from which follows the conclusion that our duty as a profession lies in the direction of securing legislation by the Congress, whereby our medicines, like our foods, shall be subject to inspection and certification by the National Government.

### UNIFORM MEDICAL LAWS.

Another object, already hinted at, to which the organized profession should devote its serious attention, consists in securing the adoption, by all states, of uniform laws relating to the public health, to vital statistics and to the regulation of the practice of medicine. It seems that, under the organization of our national and state governments, respectively, police powers, of which sanitary and medical laws are but expressions, were reserved to the states and that, consequently, such laws can not be enacted by the National Government, except insofar as they may relate to commerce between states. This being true, it follows that no national law can be enacted that will touch these subjects—a condition that has resulted in the lack of uniformity in state laws and the consequent inability to secure co-operation between the states in their enforcement. In the face of this state of affairs it seems to be the duty of our profession, as now organized, to secure, through its constituted committees, drafts that will serve as models for the three sets of laws indicated; and that, as occasion arises for the amendment of existing laws or for the enactment of new ones, it is our duty to press these models for adoption by the various states until, in effect, the laws on public health, vital statistics and the practice of medicine, shall be uniform all over the United States.

### PRESENT STATUS OF ORGANIZATION IN THE PROFESSION.

It becomes apparent, at a glance, that to secure the necessary action by the Congress, or by the various legislatures on the subjects I have mentioned, chiefly by way of illustration, we are confronted by the necessity for three requisites, namely, organization, discipline and action. So far as organization is concerned, I am pleased to report that the condition is rapidly becoming satisfactory. The reorganization of the American Medical Association, with the various state associations as integral factors and with county societies as the primary units of organization, the medical profession of the whole country is, for the first time, in a condition of effective solidarity. This general scheme of organization has been supplemented by special agencies calculated to bring the full weight of the profession to bear on important public questions. These special agencies consist of a National Committee on Medical Legislation, consisting of a limited number of members, assisted by a legislative council embracing not only the National Committee on Medical Legislation, but of one member for each state and territory and for each of the public services, while this, in turn, is supplemented by a National Auxiliary Congressional and Legislative Committee, consisting of one member in each county in the United States.

### MOTIVES AND METHODS OF PROCEDURE.

And now permit me to say a few plain, very plain, words about motives and methods underlying this extensive organization. In the first place, from the day when, in our early colonial period, a few physicians gathered together, to the present when, within the limits of our confederated organizations—national, state and county—there are quite 75,000 out of the 140,000 physicians of the country, the primary motive has been, as it is to-day, a desire to promote the scientific excellence and the humane efficiency of the profession. The motive underlying the political aspect of our organization, however—the word political having no party significance whatever—requires rather more definite explanation. In the first place, in the long course of agitation touching sanitary and medical legislation, national and state, the medical profession has been held responsible for every measure, however ill considered, absurd or mischievous, that has been brought forward. On the other hand, many meritorious measures, on which the medical profession would like to have spoken, and concerning which legislators would naturally have desired the advice of the profession, have failed of passage, because the profession, not existing as a compact body, or being divided in council, or having no means of arriving at either a consensus of opinion or a concert of action, has failed to bring its proper and legitimate influence to bear on the question. This condition, it is believed, has been at least measurably remedied by the creation of the committees to which I have alluded, but whose respective duties require additional explanation. Thus, in the first place, it is the duty of the National Committee on Medical Legislation, appointed by the American Medical Association, to examine carefully into the merits of all proposed legislation relative either to the public health, to vital statistics, or to the practice of medicine, and as far as possible, secure uniformity in these provisions—all proposed legislation affecting either the efficiency, status or personal welfare of the medical profession, as represented in the public services; and all proposed legislation in any way relating either to the science of medicine or to the correlated sciences.

The results of these deliberations are then to be laid before the national legislative council, already alluded to, consisting of the National Committee on Medical Legislation, and one representative from each state and territorial medical association and one from each of the public services, namely, the Army, the Navy and the Public Health and Marine-Hospital Service. It is assumed that the findings of such a representative body can be accepted for the guidance alike of the profession and of the Congress. Accordingly it becomes the duty of the National Committee on Medical Legislation, first, to make the proper representations to the respective committees before which the various bills may be pending, and next, when deemed necessary or expedient, to communicate the necessary advice to the National Auxiliary Congressional and Legislative Committee, consisting of one member in each county in the United States. It then becomes the duty of each member of this large committee, acting under the regulations as the confidential correspondent of the national committee, to bring all and only such matters of pending legislation as may be thus referred to him, to the attention of the medical profession and to the people of his respective county, and by every honorable means—personal and political, individual and professional, private and public, direct and indirect—secure desired action thereon by his representatives in both branches of the Congress of the United States. And it is made his further duty promptly to report all such efforts on his part to the chairman of the Committee on Medical Legislation of the American Medical Association.

This scheme of organization, already effected for national or congressional purposes, is equally effective in the different states, the co-ordinating center, in such instances, being the committees on medical legislation appointed by the respective state associations, the advisory council being the district councilors, while the local auxiliaries may be the regular appointees of the national committee, which appointees are, it will be remembered, nominated by the presidents of the state associations.

In this way, and in this way only, so far as the National Committee on Medical Legislation has been able to determine, can the medical profession as a body be safely guided in its opinions and actions on legislative questions, and in this way only can such opinions be reflected effectively on the Congress. The policy is not, however, in any sense, one of "stand and deliver." It is probably true that the few dozen doctors in a county, or the few hundred in a congressional district, or the few thousand in a state, acting as a unit, might exercise a modifying influence on results; but this is a phase of the question not to be contemplated. The theory is, rather, that an explanation made by a constituent is generally more lucid and convincing than is the same explanation when made by a strange committeeman, particularly when the committeeman can not get within "earshot" of the law-maker. Aside, however, from the humor of the observation, the fact remains that advice from acquaintances, from friends, from family physicians, whose relations in life are known and of whose intelligence and disinterestedness there can be no question, is naturally enough the very advice which a conscientious congressman or legislator would gladly welcome.

The chief object that I have had in view in presenting this brief résumé of a really very important subject would be lost if, in conclusion I did not invoke your cordial co-operation and that of the entire profession in carrying this work to its fullest fruition. In this connection, let us remember that all co-operative endeavor becomes effective only when approached in a spirit of concession. The art of politics has been defined as the art of compromise; and, my friends of the profession, we, in the sense that I have attempted to define, are in politics. This fact has been recognized all over the country and in the great work of organization, with not more than two exceptions, the spirit of compromise has been so dominant that prejudices, predilections, prerogatives and even minor principles have been willingly and gladly subordinated to the greater principles for the conservation of the greater good. This spirit—the very soul of fraternity, coupled with the spirit of industry, the spirit of culture, the spirit of patriotism—must be kept in the ascendant if we, as a profession, shall maintain our just position and discharge our full duty as citizens of this great republic.

## Original Articles.

# A CONTRIBUTION TO THE STUDY OF VISUAL DISTURBANCES IN BRAIN INJURY.*

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CHICAGO.

### NARRATION OF CASE.[1]

*Hospital Record.*[2]—Fred. L., was brought by patrol about 9:30 p. m., Feb. 11, 1899, with gunshot wound in the left temple, one and one-half inches back of left eye, one-half inch above zygoma (Fig. 1), the revolver having been held within a few feet of the head. Examination found the patient pale, pulse slow and full, pupils moderately dilated, cold perspiration, no focal symptoms (?); a round hole with edges blackened and inverted in the location above described. Hemorrhage severe. Can not find bullet by palpation. Next day found bullet had flattened against side of the skull, and was removed (?) by Dr. C. within a few minutes after the injury. Patient was unconscious for about 14 days; had partial aphonia.

No convulsions at any time. Summary of the pulse rate and temperature: During his hospital residence his temperature was above normal only on two occasions: on March 15, 100 F.; on March 16, 100.8 F. The pulse rate remained below normal until February 20, after which it remained normal, 72. The lowest rate, 52, was recorded February 18. No further record kept.

Diagnosed—Bullet wound of the head; concussion of the brain. Result—Cured. Discharged March 9, 1899.

*Patient's Story.*—The patient gives me the following history: For a few days after returning to consciousness he could not recognize familiar objects by sight; he did not know what the pictures on the wall were; on looking out of the window he *could not recognize* the streets or the locality. He was unable to count or name the letters of the alphabet. He was lost.

On his way from the hospital to his home he was still unable to recognize the familiar streets. He says this inability to recognize the streets lasted *only* two or three days after returning home. All other things that he saw he knew at this time. There were no *hallucinations of vision.* He was unable to call the names of the most familiar objects about the room, although toward the end of his hospital sojourn he knew the *use of them.* For example, he could *not recall the name of a* "chair," but he knew its use.

When he wanted to smoke he could not recall the name "cigar," but would indicate it by making the motions of holding and puffing a cigar. Neither the touch, taste or smell of the cigar would bring the name to his mind, but when "cigar" was mentioned to him he would immediately recognize and repeat it, but would soon forget it. The ticking of a watch or ringing of a bell did not bring back the name of the object. He would speak of a street car as a "*thing to ride in*," etc. He could not recall the names of his *most familiar friends*, but he recognized them, for example, his brother-in-law, whose name is Robert, he would call "*Lawrence*" or other names.

For several months after the injury he was unable to read printed or written words. Three months after the injury he wrote a letter to his father, which his father answered. The patient was unable to read this letter after he had written it. He says he would forget the last word on going to the next.

*Author's Findings After One Year.*—Jan. 24, 1900, he came into my service at the Illinois Charitable Eye and Ear Infirmary, complaining of difficulty with his sight. Age 28 years. An intelligent, educated German. No history of previous disease of the eyes or dimness of vision; no history of syphilitic infection or evidence of tabes.

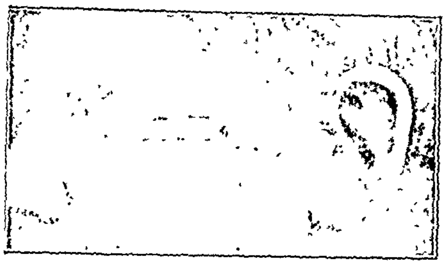

Fig. 1.—Showing entrance of bullet.

R. V. 20/20+, L. V. 20/20+. Pupils normal in size, and *reacted normally to direct light*, consensually and to *accommodation. Discs slightly* paler than normal. No diplopia present, right homonomous hemianopsia. Negative scotoma. *Intact part of the field contracted* for form and color (Fig. 2). *I searched diligently* for hemiopic pupillary rigidity, but it was not found.

He can not raise the right foot well, walks lame. Little reduction in strength of right hand (he is right-handed) as compared with the left. Right half of the body anesthetic, most pronounced in the foot. No paralysis of muscles of the right side of the face. Hearing normal in each ear. Taste on each side of the tongue unimpaired.

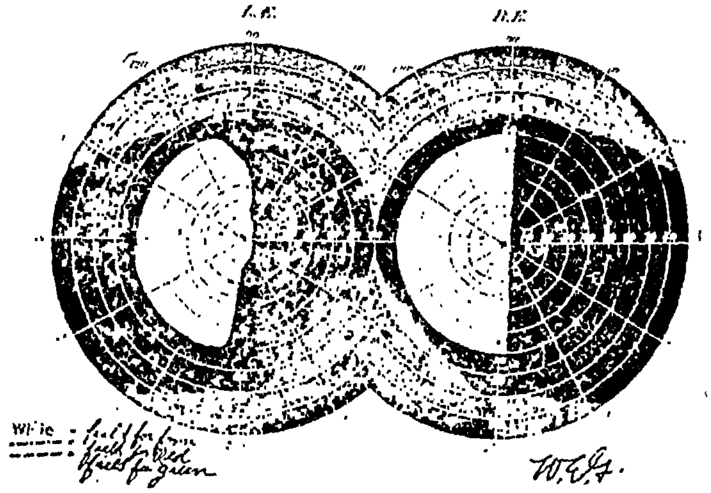

Figure 2.

He had severe headaches (not localized) for ten months after *the injury. He has difficulty in remembering proper names;* for example, he can not remember my name, although he knows me well. On handing him my card he has a little difficulty in reading it. He can not give the name of this hospital nor of the street, although he is acquainted with the locality. He writes spontaneously and less freely from dictation.

In view of the presence of hemiparesis, hemianesthesia and hemianopsia, I could not accept the statement of the physician who first saw the patient that the bullet had not penetrated the skull. Consequently, I did not agree with the *diagnosis*—"concussion of the brain"—made at the hospital. Radiographs were taken, plainly showing the bullet in the occipital region, left hemisphere (Figs. 3 and 4).

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

[1] Case reported to Chicago Ophthalmological and Otological Society, May 13, 1902.

[2] Taken from Alexian Brothers' Hospital case record.

*Condition After Three Years.*—Feb. 19, 1902, three years from date of injury, he visited me again. V. R. 20/20—. V. L. 20/20—. Pupillary action normal. Field of vision same as when taken two years ago (Fig. 2). He still has difficulty in remembering names, as, or instance, he can now give my name, although when it is written he reads it.

There is no hemiplegia or hemianesthesia, but there is paresthesia of the ball of the right foot, and especially of the second toe. He locates a "sore disagreeable feeling" in the left occipitoparietal region, about the size of a silver half dollar. He has had this feeling more or less since injury. His grasp in the right hand is greater than in the left. He is not lame nor has he any difficulty in walking.

He is a finisher and painter, and is now painting, on a scaffold, the outside of one of the sky-scrapers in this city. He tells me he has great difficulty mixing paints. He can select the color if the name is given him, but he can not give the name of the color that he wants (anmesic color blindness), and as occasionally the mixing is done on an upper floor, he has to go to the basement himself instead of sending a helper to get the "color" he desires. This is especially true at the present time with shades of color that have compound names, such as bismark-brown, yellow-ochre, burnt-umber, chrome-yellow, vandyke-brown, etc. He can now give the names, red, yellow, green, blue, without difficulty when he sees them or wishes to recall the particular color. When he began painting again after his injury he could not even do this. He performs the Holmgren test perfectly. It should be added that while he was explaining to me his difficulty in getting the name of the particular shade he saw or desired, he enumerated a long list of names of special shades without hesitation. In this list were the names I have used above.

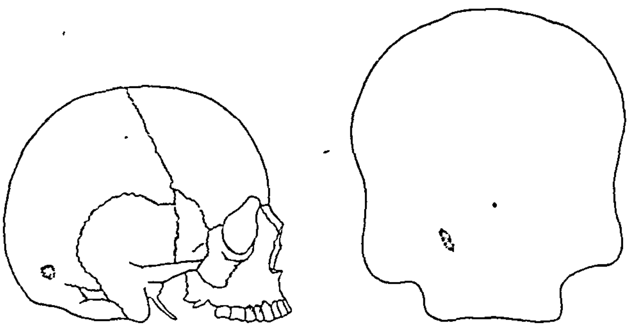
Fig. 3. Fig. 4.

Figs. 3 and 4.—Lateral and posterior views of skull, with shaded area showing bullet. Drawings accurately reduced from radiographs.

*Appearance of Optic Discs.*—In the right eye the bluish-white lamina cribrosa shows through the greater part of the optic disc, especially on the temporal side. The borders are sharply defined and the vessels but slightly changed; veins possibly a little engorged. Some connective tissue is seen at the bifurcation of the main artery, probably congenital. The left optic disc is pale, but does not have the bluish appearance of the right, and the lamina cribrosa is but dimly seen. There is some connective tissue at the bifurcation of the central artery. The outline of the margin is pronounced, with no signs of choroidal atrophy in the margin. Veins are possibly slightly engorged. No other change was observed.

*Condition After Four Years.*—Feb. 26, 1903. R. V. 20/20—. L. V. 20/20—. Field same as on last examination. Current speech seems to be about normal. When asked "Who is President of the United States?" he replied, "Garfield," and finally, after much effort and mispronunciation, got the name of the President correctly. For the last several months he has set himself to the task of increasing his vocabulary for names. By constant repetition he is slowly becoming able to retain permanently the names of the people he most often needs to address. He no longer forgets my name. He can now recall at will the names of a few of the principal streets, although to-day he was unable to give the name of one of two streets passing a shop where he has worked since last November. He carries a street directory with him and underscores the name of the street he wishes to reach. Sometimes he can remember the first letter and recognize the name when he finds it on the printed list.

While before his injury he was an omnivorous reader, he now reads at most disconnected newspaper paragraphs and letters from his father. In each letter there are words which he is unable to make out, and he usually writes his father for an explanation (alexia). The patient is of the opinion that the rate of progress from complete alexia (pure), in 1899, to his present attainment has been less during the last year than formerly. He has made no systematic effort to train this faculty. He says he has especial difficulty with long words: that seeing the left half of the word, and then, as he turns his eyes to increase his field, seeing the other half, he forgets the first, this explanation does not entirely satisfy him, but he is unable to add to it. At 15 inches from his face he is unable to keep in his eye a word longer than ¾ of an inch. At closer distance the length of the word seen is more limited. He thinks his chief difficulty is with long and (to him) unfamiliar words. Formerly he had the same difficulty with short words. By intently looking at the word which puzzles him he is usually able to read it after a time. He has had no trouble in writing at any time.

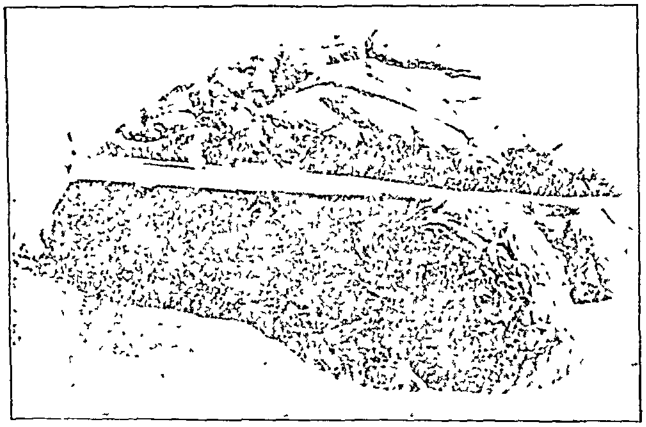
Fig. 5.—View showing assumed line of transit of bullet. The third and fourth temporal and middle convolutions suffered.

In determining the probable localization of the lesion, I have had the good fortune to secure the co-operation of my friend and colleague, Dr. William T. Eckley, professor of anatomy in the College of Physicians and Surgeons, the School of Medicine of the University of Illinois. Dr. Eckley also secured the assistance of Prof. Harry E Santee. Their methods and conclusions are given below.

*Anatomic Report.*—"With the able assistance of Dr. Harry E. Santee, we are prepared to submit the following report, in which we duplicate to the best of our ability, on a cadaver, the line of transit and brain tissue traversed by a bullet in the above case.

"As indicated by the skiagraphs submitted by you to us, the bullet now occupies in your patient a space three-quarters of an inch above and one inch and a quarter to the left of the external occipital protuberance, in the left cerebral hemisphere in contact with or very close to (probably ⅛ inch) the skull in this region. A scar on the patient, just above the zygomatic arch and in the junctional angle of the frontal and zygomatic processes of the malar bone, marks the place of entry of the bullet. On a cadaver's head, conforming in measurements to the head of the patient, we located the entry of the bullet and its resting place, by comparison with head of patient and skiagraphs; and by trephining through the skull at these extreme points, succeeded in passing a steel spike ¼ inch in diameter through the brain in the probable line followed by the bullet. The hypothetical line of transit passes just above, but does not touch the superior border of the petrous part of the temporal bone; and this being the only structure in the area under consideration, capable of producing deflection of the missile, we concluded the same followed a straight line, and on this assumption we venture to enumerate the brain regions necessarily traversed by the bullet.

"(a) The greater part of the third temporal convolution, in which the so-called naming center is located, was destroyed.

"(b) The fourth temporal convolution is almost destroyed, the upper part especially.

"(c) The anterior end of the inferior occipital convolution is bruised.

"(d) The outer surface of the middle occipital convolution is penetrated.

"(e) The perpendicular fasciculus of association fibers was in part cut off. This band of long association fibers, while of doubtful function, extends from the inferior parietal to the second and third temporal convolutions; and also joins the superior with the middle and inferior occipital convolutions and with the fusiform gyrus of the temporal lobe.

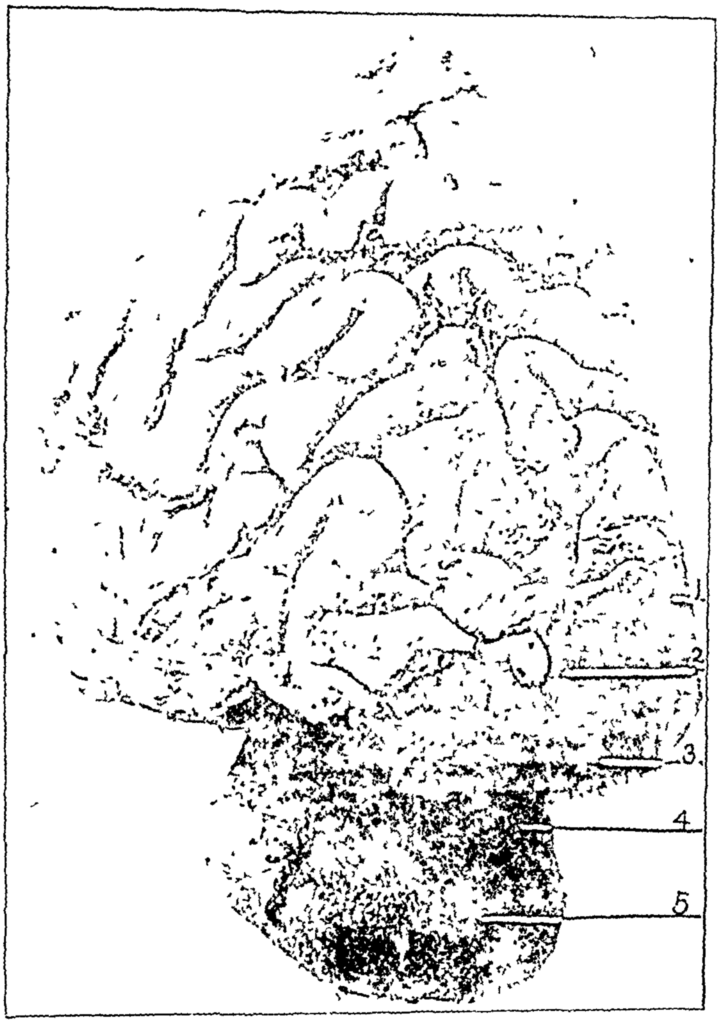

Fig. 6—Showing distance of posterior part of wound from the cuneus, about one inch. 1. Sup. oc. convolution. 2. Middle oc convolution 3. Inf oc convolution 4 Transverse fissure 5 Cerebellum.

"(f) The association fibers between the tentorial and convex surfaces of the occipital lobe have been in part cut off.

"(g) The inferior longitudinal fasciculus connecting the temporal and occipital lobes, thus associating the center of hearing and visual memory respectively, may have been cut off or injured by concussions."

### ANALYSIS OF FINDINGS.

This lesion, not involving the internal capsule (three-fourths inch away), the hemianesthesia and hemiplegia, principally confined to the right leg, being temporary, could be accounted for by hemorrhagic disturbance of the tracts leading from the occipital cortex as they pass forward to enter the internal capsule; and not by permanent lesion, the hemianopsia in this case being due to severance of *all the visual* bundle of radiations of Gratiolet in this hemisphere.

The *mind-blindness* can readily be accounted for by general circulatory and consequent nutritional disturbance of the brain resulting from the injury.

The *verbal amnesia* would seem to be of the visual type. It can not, however, clearly be classified as "visual aphasia," as described by Freund[1] and others, because names of objects seen are not recalled by aid of other senses. For example, the smoking of the cigar which would call into co-operation with sight the senses of touch, taste and smell, did not bring back the name Listening to a watch or a bell did not bring back the name "watch" or "bell." However, his loss of memory for substantives, especially proper nouns, has been classified as visual aphasia by some authors, the name being immediately recognized when heard but soon forgotten.

It is a significant fact that in 25 cases of aphasia in various forms, in otitic abscess of the left temporal region, collected by Merkens,[2] the only symptom common to all, was visual aphasia. Oppenheim[3] says this symptom "appears to be caused by lesions at the border of the left occipital and temporal lobes, and so extensive as to divide the conducting tracts leading from the posterior lobes to the center for tone pictures." C. K. Mills[4] teaches that there is a concept area for names in the mid-temporal region, probably in the posterior fourth of the third temporal and the occipital (left) in this region, which he calls the "naming center."

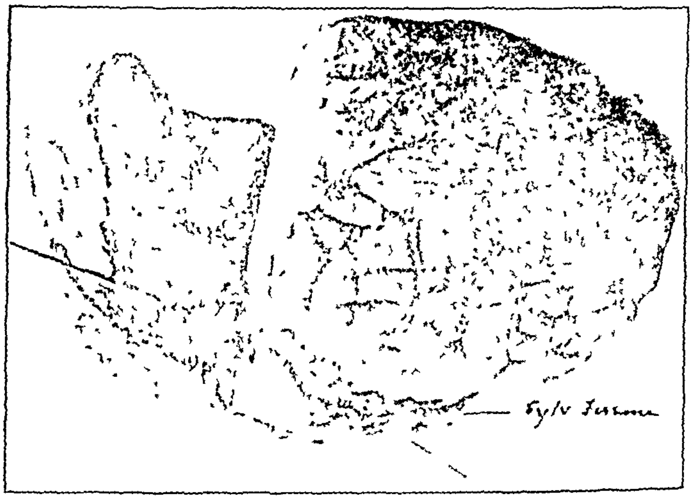

Fig. 7—The needle represents (a) course of bullet through third and fourth temporal convolutions; (b) relation of course of missile to descending and posterior horns of lateral ventricle, (c) relation to radiations of superior longitudinal fasciculus, optic radiations and inferior longitudinal fasciculus

It can not be definitely determined by the findings in this case whether the verbal amnesia is a result of destruction of the greater part of the cortex in the third and fourth temporal convolutions (posterior) and injury to the cortex of the anterior end of the inferior occipital convolution; or of subcortical lesion in the middle occipital convolution, extending backward nearly or entirely through it or a result of all the lesions.

However, in view of the fact that there is little or no evidence heretofore brought forward of subcortical lesion in the inferior occipital convolution producing this symptom; and on the other hand, much

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1. Freund: Archiv. fur Psych. u. Nervenkrank., xx, S. 276
2. Merkens: Deut. Zeit. f. Chir., B. 60, S. 417.
3. Oppenheim. Diseases of the Nervous System, Ed 1900, p. 464.
4. Mills: The Journal A. M. A., October, 1902. Mills and J. W. O'Connell: Jour. of Nerv. and Mental Dis., vol xx, 1895

evidence has been accumulated showing that cortical lesion in the third and fourth temporal convolutions produces this symptom, this case furnishes strong corroborative evidence in favor of the teaching of Professor Mills and others, that there is a concept area for names in the third or fourth temporal convolutions and anterior part of inferior occipital convolution, or in all.

The ability to increase his vocabulary for proper names shows that there are other cells that have this function, though undeveloped, and for the reason given below in connection with word-blindness, this undeveloped word center is probably in the right hemisphere.

*Amnesic Color Blindness.*—The patient was unable to name any color at sight for many months. At the present time (four years after date of injury) he is unable to give the names of particular shades, such as bismark-brown, chrome-yellow, etc., although being a painter, if given the name he can select any shade that he uses, but he can name the ordinary colors when he sees them, such as brown, yellow, etc. His color sense is normal, as he performs the Holmgren test perfectly. Therefore it is strictly an aphasic symptom, and has nothing to do with disturbance of the color sense.

The presence of this symptom in lesion of the left middle occipital and third and fourth temporal convolutions proves conclusively the correctness of Willbrand's[5] supposition that the lesion must be in the left hemisphere in a right-handed person. But in addition it shows this to be not the whole truth, for his partial reacquirement of this function by persistent training during a period of four years, can be explained only as an education of an undeveloped center in the right hemisphere for the same reasons as those given below for the reacquirement of names and the reacquirement of the ability to read. This lesion is evidently produced by severance of the path leading from the center for color vision at the bottom of the calcarine fissure (Henschen),[6] anteriorly to the speech center.

*Word-Blindness.*—The pure word-blindness, according to the patient's explanation is probably partly a forgetfulness of parts or the whole of a word preceding the part in mind—a type of verbal amnesia. This aphasic disturbance was complete for several months (more than three months). Improvement has been gradual until at the present time he can read, although with difficulty. The gradual recovery from this aphasic condition can not be accounted for by a reparative process taking place in the left middle occipital and third and fourth temporal convolutions, the bullet being larger than 22-caliber.

Phelps[7] reports a case of gunshot wound of the brain, in which thirteen years afterward the bullet tract was converted into a membranous canal. Doctors Sanger Brown[8] and Schaefer found, six months after removing the occipital lobe of a monkey, that the cut surfaces had remained unchanged, the edema *ex vacuo* taking the place of the lost part. It is hardly necessary to add that evidence is lacking of reparative process in lesion of nerve tissue in brain and cord.

We are compelled to assume that other specialized nerve cells have taken on this function, and from our knowledge of the bilateral nature of other functions of the brain it is reasonable to assume, according to Bastian's[9] teaching, that the right hemisphere has an undeveloped word center which is capable of education, contrary to the views of Dejerine[10] and Lichtheim that only the left hemisphere is concerned in word-blindness. In the three other cases of pure word blindness (Dejerine,[10], Redlich and Wyllie) so far reported, in which autopsies were obtained, the lesion found in each case was in the white substance in occipital region (left) together with damage to lingual fusiform hypocampal gyrus and cuneus. In these cases the cortical region injured is destruction of the greater part (posterior) of the third and fourth temporal convolutions and the bruising of extreme anterior end of left inferior occipital convolution, the cortical area common to this case and another case reported being the fusiform gyrus.

Therefore, in this case, it is altogether probable that the lesion causing this alexia is mainly due to the injury of the white substance in the occipital region, involving the lower part of the inferior longitudinal fasciculus (Dejerine[10]) and not due to direct cortical lesion.

*Dyslexia.*—The distaste which the patient experiences for reading (dyslexia) is partly due to the great reduction of the field resulting from the hemianopsia and from the concentric contraction of this half field to 50" for form (20" for red and 10" for green); and partly due to partial word-blindness and also to fatigue which comes from developing a function in the right hemisphere comparable to the discomfort evinced by a child in learning to read.

*Optic Atrophy.*—There being no history of previous severe illness nor dimness of vision or other ocular trouble, nor evidence of tabes nor syphilitic infection present, it must therefore be assumed that the gunshot wound is the cause of the change in the discs. Primary atrophy of optic discs, if we adhere to the doctrine of the neuronic theory, is almost inexplicable when the lesion is behind the central ganglia, as it is in this case. The "indirect"[11] theory, lately put forth is the only explanation so far offered.

*Prognosis.*—The unusual fact of the toleration of the bullet by the brain for a period of four years may be due to its present location, being possibly on the tentorium. The irritation of this membrane may have produced proliferation of the connective tissue about the bullet, encysting it. If this be true, for this reason the prognosis in this case is good. Surgical interference would probably improve prognosis.

### CONCLUSIONS SUGGESTED.

The findings in this case suggest the following conclusions:

1. A cortical lesion the size of a 32-caliber (?) bullet, involving the greater part (posterior) of the third and fourth left temporal convolutions and bruising of extreme anterior end of inferior occipital convolution, and a subcortical lesion penetrating the middle occipital convolution at the same level, produces verbal amnesia, especially for names of objects seen and having been seen, particularly those which have proper names (concrete nouns), and for names of colors, especially names of special shades, such as bismark-brown, etc. (amnesic color blindness), and pure word-blindness (alexia), which may be in part a form of visual verbal amnesia.

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[5] Willbrand: Quoted from Swanzy, A System of Diseases of the Eye, Norris and Oliver, vol. iv, p. 562.

[6] Henschen: "Brain," London, 1893, p. 170.

[7] Phelps: "Traumatic Injuries of the Brain," p. 67.

[8] Sanger Brown and Schaefer: Philo. Trans. Royal Society of London, vol. clxxix (1888) B., pp. 303-327.

[9] Bastian: Allbutt's System of Medicine, vol. vii, p. 437.

[10] Dejerine: Quoted from Swanzy, "A System of Diseases of the Eye," Norris and Oliver, vol. iv, p. 561.

[11] Barker: The Nervous System, p. 18.

2. Verbal amnesia is a result of lesion in the cortex of third and fourth temporal convolutions, left hemisphere and injury to cortex of anterior end of inferior occipital convolution.

3. The amnesic color blindness and alexia result from subcortical lesion in left middle occipital convolution.

4. The reacquirement of these functions in a man 28 years of age is a slow and tedious process of education of the specialized though undeveloped cells of the right hemisphere, requiring years for even partial accomplishment.

5. Injury to the optic radiations of Gratiolet may produce negative scotoma, contrary to the teaching that such a lesion produces positive scotoma.

6. Primary atrophy of the optic discs occurs in lesions of the left tempero-occipital region.

## DISCUSSION.

Dr. H. T. Pershing, Denver—It is somewhat precarious to infer the place of a lesion from an attempted reproduction of it on the cadaver of another person. From its clinical features, I think the case was one of subcortical visual aphasia. The fact that the patient could write showed that his visual memory was good, but the fact that he could not read what he had written showed that there was an interruption of the association fibers. This explanation would also account for his inability to recall nouns, especially proper nouns, because, according to the best theory we have to offer, a noun is recalled by the visual image of the corresponding object. My opinion, therefore, is that the case was one of subcortical visual aphasia, due to a lesion in the immediate vicinity of the angular gyrus.

Dr. H. T. Patrick, Chicago—I feel inclined to support Dr. Pershing's view. I understood from Dr. Gamble's paper that the last examination of the patient's eyes made recently showed a vision of 20/20 in either eye, and yet there was double optic atrophy. How does he reconcile these statements? Furthermore, how could this injury cause double optic atrophy? The course of the projectile, as traced by Dr. Gamble, would hardly account for the motor and sensory disturbances in the right lower extremity. In order to account for those symptoms, the bullet would have to go a little deeper and start a little further forward, which would be a much simpler explanation than to invoke the aid of disputed points in anatomy and physiology or theories that are as yet unproved. It has been shown by Horsley and others, especially since recent wars, that the injury inflicted by a projectile passing through the brain is not accurately represented by the track of the bullet. The latter has an explosive action, and this gives rise to widespread injury which is more or less in proportion to the velocity of the projectile. The injury inflicted by a bullet passing through the brain is not the same as that resulting, for example, from excision of a certain cortical area. By a rapidly moving bullet, as just stated, the brain is somewhat injured, not destroyed, to a certain extent outside the course of the projectile. Such an injury does not involve the question of the reuniting of nerve fibers or the regeneration of nerve cells. It simply involves a reparative process in the immediate neighborhood of the injury, such as occurs after traumatism or embolism or hemorrhage. There is only a partial injury to the brain tissue, and it is usually followed by at least partial repair. It is not necessary to invoke the theory of the re-education of latent nerve cells or centers in the adult.

Dr. J. H. McBride, Los Angeles, Cal.—About thirty years ago there was reported in London the case of a right-handed child that suddenly became aphasic, indicating a lesion in the left motor speech center. Within a year, speech was entirely recovered. Two years later there was another attack of aphasia, which was permanent. The child died six months later, and two lesions were found in the brain, one involving the third left frontal convolution and the other the third right frontal. In 1890 there was admitted into the Milwaukee Hospital a man who was supposed to be suffering from chronic epilepsy. He stated that twenty-seven years before he had been shot in the eye. The man died, and at the autopsy the bullet was found under the left temporal bone. It had lodged in the second left temporal convolution and gradually gravitated to the point where it was found.

Prof. W. T. Eckley, Chicago—Speaking on the basis of the examination that Dr. H. E. Santee and I made, the anatomic side of the discussion of this valuable contribution will give a brief summary of the known anatomy and physiology of the temporo-occipital region, looking to the pathologic possibilities incident to disease or trauma. We shall consider the commissures, the association fibers, and the sensorial cortical centers, which latter receive impulses from corresponding peripheral regions, and give origin to audition, olfaction, gustation and vision.

*The commissural fibers connect portions of opposite hemispheres, forming definite structures*—the corpus callosum, the anterior commissure and the hippocampal commissure.

*The corpus callosum* connects both similar and dissimilar parts in all regions of the hemisphere except the olfactory bulbs and the antero-inferior portions of the temporal lobes. The anterior commissure, supplemental to the corpus callosum, connects the two olfactory lobes and portions of the temporal lobes. The hippocampal commissure connects the uncus, optic thalamus and hippocampus major of one side with similar structures of the opposite side.

*Association fibers in general connect* parts of the cortex on the same side of the hemisphere. Short association fibers connect convolution with convolution; long association fibers connect lobe to lobe. The long association fibers are the cingulum, fornix, uncinate fasciculus, superior longitudinal fasciculus, inferior longitudinal fasciculus, occipito-frontal fasciculus, and perpendicular fasciculus.

*The cingulum* is in the falciform gyrus and almost completely surrounds the corpus callosum. It associates the frontal lobe and uncus. The fornix connects the corpus albicans and thalamus with the uncus and hippocampus major. The uncinate fasciculus arches over the stem of the sylvian fissure, connecting the uncus with the frontal pole and orbital convolutions. Lesions in cingulum, fornix or uncinate fasciculus produce disturbances in smell, because they are connected with the rhinencephalon.

*The superior longitudinal fasciculus*, on the outer surface of the foot of the corona radiata, connects the frontal temporal and occipital lobe. It passes over the insular region and at the posterior end of the sylvian fissure bends around the putamen and passes to the temporal lobe. It sends numerour radiating fibers into the occipital lobe. This fasciculus associates the motor speech center with the visual and auditory memory centers. If it is destroyed, the patient can see and hear perfectly and recognize things seen and heard, but he has no power to express in words his visual and auditory memories.

*The inferior longitudinal fasciculus* extends along the whole length of the temporal and occipital lobes, uniting the auditory and visual memory centers. In the occipital lobe it is to the outer side of the optic radiations, from which it is to be distinguished by the greater coarseness of its fibers.

*The fasciculus occipito-frontalis* is between the cingulum and superior longitudinal fasciculus, extending from the cortex of the entire frontal lobe to the occipital lobe, where its fibers diverge, fan-like, and enter the descending and posterior horns of the lateral ventricle.

*The perpendicular fasciculus* extends from the inferior parietal convolution to the second and third temporal convolutions anteriorly; posteriorly, it joins the superior, middle and inferior occipital convolutions with the fusiform gyrus of the temporal lobe.

*The auditory sensory center* is in the transverse temporal gyri and third and fourth fifths of the superior temporal convolution. It is represented peripherally by the cochlea, and impulses of hearing reach the auditory sensory center over the cochlear path.

*The auditory memory center* is intimately associated (1) with the auditory sensory center, by short association fibers; (2) with the motor speech center, by the superior longitudinal fasciculus; (3) probably, with the naming center, through a group of association fibers.

*The olfactory center* is probably in the mucus. It is represented peripherally by the schneiderian membrane. Impulses of smell reach the uncus through the fibers of the olfactory tract, cingulum and uncinate fasciculus.

*The gustatory center* is probably in the cortex of the hippocampal convolution, posterior to the olfactory center. It is represented peripherally by the end organs of the glossopharyngeal and chorda tympani nerves. Impulses of taste reach the center through the medial fillet and internal capsule.

*The visual sensory center* is in the cuneus and lingual convolution, on the mesial surface of the hemisphere, and extends somewhat into the convex surface of the occipital lobe. Its peripheral representative is the retina, and impulses here originating reach the higher visual sensory center, in the cortex of the cuneus, via the optic nerve, tract and radiation. The visual sensory center is connected to the visual memory center by short association fibers.

*The visual memory center* is in the angular and occipital convolutions. It is associated with the visual sensory center by short association fibers, and with the motor speech center, in the central gyri and inferior frontal convolution, through the superior longitudinal fasciculus. Injury of the visual sensory center produces blindness. Injury of the visual memory center produces mind blindness. Destruction of the tract, associating the visual memory center and the motor speech center produces sensory aphasia.

Let us now analyze the sensorial cortical centers in the occipital and temporal lobes, with reference to destruction of (*a*) the sensory center; (*b*) the memory center; (*c*) the tract of association fibers connecting several memory centers with the motor speech center. If the visual sensory center is destroyed, there is blindness in the opposite eye. If the visual memory center is destroyed, vision remains, but the patient has no power to recognize through seeing. If the tract connecting the visual memory center with the motor speech center is destroyed, vision and recognition of things seen will be perfect, but the patient will be unable to express in words his visual memories. If the auditory sensory center is destroyed, there is loss of hearing in the ear of the opposite side. If the auditory memory center is destroyed, the patient hears, but there is failure of recognition, through hearing. If the tract connecting the auditory memory center with the motor speech center is destroyed, hearing and recognition of things heard will be perfect, but the patient will be unable to express in words the auditory memories. In the light of analogy there must be, linked to the olfactory and gustatory centers, corresponding olfactory and gustatory memory centers. If the olfactory sensory center is destroyed, there is loss of smell in the nose of the corresponding side. If the olfactory memory center is destroyed the patient smells, but can not recognize through smelling. If the tract connecting the olfactory memory center with the motor speech center is destroyed, smelling and recognition of things smelled will be perfect, but the patient will be unable to express in words his olfactory memories. If the gustatory sensory center is destroyed, there will be loss of taste. If the gustatory memory center is destroyed, the sense of taste is perfect, but the patient can not recognize things tasted. If the tract leading from the gustatory memory center to the motor speech center is destroyed, taste and recognition of things tasted will be perfect, but the patient will be unable to express in words his gustatory memories.

In the interesting clinical case under discussion, the patient could see and recognize things seen; hear and recognize things heard; smell and recognize things smelled; taste and recognize things tasted. Therefore, the respective sensory and memory centeres of vision, audition, olfaction and gustation were unimpaired. The patient, however, could not express in words, visual, auditory, olfactory and gustatory memories. Therefore, there must have been interruption in the long association fibers connecting the cortical memory centers of these special senses with the motor speech center; and the injury must have been to the radiating fibers in the occipital lobe where the superior longitudinal fasciculus turns forward into the temporal lobe, around the putamen. In view of the symptoms —visual, auditory, olfactory and gustatory aphasia—is not the easiest explanation of this group of symptoms to be found in the assumption of a common naming center, interposed somewhere between the motor speech center and the cortical memory centers previously mentioned?

DR. W. E. GAMBLE—The lesion producing the alexia is probably the subcortical injury in the left middle occipital convolution involving the inferior longitudinal fasciculus, and not the cortical lesion in the third and fourth temporal convolutions. I fail to see on what known or supposed physiologic basis Dr. Patrick assumed that the lesion in this case is higher up than Dr. Eckley has demonstrated, that is, involving the region of the angular gyrus. This region is held by Bastian and Gower to be the center for visual memories, while the later clinicopathologic work of Henschen leads him to the conclusion that the whole convex surface of the occipital lobe has this function. Wilbrand, Nothnagel and others believe that the whole occipital lobe, except where the center of vision resides, stores up visual memories. In my case the visual memories are intact, with the possible exception of alexia. In answer to Dr. Patrick's question: "How can your patient have optic atrophy and still see 20/20 with each eye?" At first thought such a statement would seem a paradox. However, by reference to the diagram of the field of vision (Fig. 2), it will be seen that his half fields are concentrically contracted for form to 50 degrees, which shows that a large part of the optic nerve (peripheral fibers) has lost its function. The maculopapillary bundle has remained intact, which accounts for the good central vision. I do not share in Dr. Patrick's difficulty of understanding how the patient had temporary hemiparesis and hemiplegia, especially confined to the right foot, in the lesion described. As I stated in my paper, the tracts passing from the occipital cortex to the internal capsule were more or less injured by the hemorrhage, not destroyed by the bullet, the internal capsule not having been injured.

# A CASE OF PERFORATING WOUND OF BOTH CEREBRAL HEMISPHERES.*

W. S. LINDSAY, M.D.
TOPEKA, KAN.

Last November, while attending a meeting of our county medical society I was summoned, in company with Drs. McClintock and Bowen, to a hotel near by in which a guest of the house was said to have attempted suicide. We found a young man about 19 years of age writhing on the floor with a bloody wound on the right temple, the result of a revolver shot fired about five minutes previously.

The hemorrhage was not great, but to prevent its becoming greater we tried to keep the patient quiet till an ambulance should arrive. In this we were not entirely successful, for he succeeded in getting up. He seemed very reticent on being questioned, although he talked enough to show mental coherence. We discovered that he had on only one cuff, whereon the patient informed us distinctly that the missing cuff was in his overcoat pocket, where it was found. Thus within a few minutes after the wound was inflicted, full mental operation was apparent, the senses of sight and hearing were normal, comprehension of spoken language was complete and the ability to frame and express a correct reply unimpaired. There was also manifest co-ordinate movements.

Examination at the hospital an hour later showed what was in effect a perforating wound of the brain, for the bullet, which was from a 32-caliber revolver, was found outside the skull on the left side, nearly opposite the point of entrance, which was one inch and a half superior and one inch and a half anterior to the meatus auditorius on the right side.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

Dr. Bowen dressed the wounds at Christ's Hospital, and the patient made an uneventful recovery, at no time showing signs of impairment of brain function, leaving the hospital on the fifteenth day seemingly as well as ever.

March 17, four months after the injury, I examined the patient and found that on leaving the hospital the patient began the study of telegraphy, that he now takes twenty-five words per minute, and expects to take a position with a railroad company. Examination for symptoms of sequelæ was entirely barren of results, except that I found an unusual redness of the face. This had been a characteristic before the wound, and was simply exaggerated afterward. There had been no head pains, no flushing of the face, no defect of any sense and no interference with ideation.

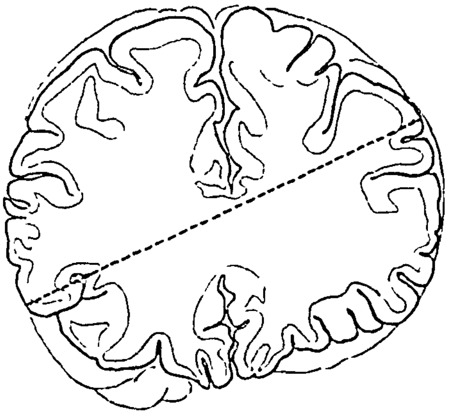

Fig. 1.—Dotted line shows line of wound through hemispheres.

By careful measurements I have prepared a section of a brain showing the track of the ball as nearly as may be. This, you will observe from the illustration, passes through the forebrain from a point in the anterior operculum on the right side to a point in the middle frontal gyrus on the left side, being about one inch higher at the point of exit.

Following this line of puncture we observe destruction of cortical cells of the third frontal convolution on right side, destruction of continuity of fibers of the fronto-cerebellar tract, which is composed of axones from the pyramidal cells of the prefrontal lobes whose course is downward and backward through the anterior part of the internal capsule and having connection through the nucleus of pontis with fibers from both cerebellar hemispheres; also association fibers representing the axones of collaterals of nerve cells connecting the cortical cells of the frontal lobe. We see also destruction of the anterior part of the corpus callosum, whereby the continuity of commissural fibers is broken; also a break in the fibers constituting the cingulum which connect the roots of the olfactories; also destruction of fibers connecting frontal and temporal lobes; thence a severing of nearly corresponding fibers in the left hemisphere.

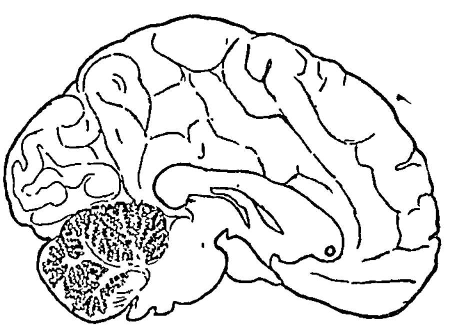

Fig. 2.—Dot shows where the ball passed through the anterior callosum.

From the investigations of Reil, Arnold, Meynert and others, we have come to recognize in the apparently homogeneous white matter of the brain fibers which constitute lines of communication in a variety of ways, till it has been said that each cell of the brain cortex as well as the basal ganglia is connected with every other cell by continuous or contiguous fibers which render this multiplex organ of ideation, motion and sensation a perfect entity. What, then, can be more important in brain functioning than the normal condition of association, commissural and inhibitory fibers primarily related to the temporal and frontal lobes of the cerebri?

We recognize the apparently profligate supply of many essential parts in nature, as seen in the pollen of our western cornfields, and in the elements of reproduction of animal life. and it has been argued that this same bounteous provision gives us such an abundance of cortical cells that many may be lost without appreciable loss of function. But can we apply this train of reasoning to a mass of cable lines extending quite across a section of the forebrain?

The surgical history of the War of the Rebellion shows a few cases of perforating wounds of the head with recovery, but so far as I can discover, nearly all have been pensioned, with a rating of total disability. These disabilities are, however, loss of vision, motor paralysis, eclampsia or vertigo, and none can be shown to be due to destruction of associating or commisural fibers.

In the case which I report, the lesion might reasonably be expected to cause defects in the association of concepts and ideas, from hindrance of functioning of fibers passing through the centrum ovale; paraphasia from lesion of the tract between the temporal and frontal lobes, defect of the sense of smell from lack of connection between olfactories, and some disturbance by reason of lesion of fronto-cerebellar tract.

I appreciate that extensive lesions in the white matter of the frontal lobes have occurred without producing symptoms, but from a theoretical standpoint, that such a lesion as I have described should occur without loss of function seems incomprehensible.

## DISCUSSION.

Dr. H. T. Pershing, Denver—Did the wound on the left side show any considerable opening in the bone?

Dr. Lindsay—There was a larger opening at the point of exit.

Dr. F. Savary Pearce, Philadelphia—Dr. Lindsay's case reminds me of one which I saw with Dr. Laplace of Philadelphia this winter. The patient was a woman, who made an attempt to commit suicide by shooting herself in the temple, the bullet emerging on the opposite side of the skull, passing through both frontal lobes. The injury was not followed by loss of consciousness nor by any other untoward symptoms, and the woman made an uneventful recovery.

Dr. H. G. Brainard, Los Angeles, Cal.—In discussing a case of this kind, we are handicapped unless the exact track of the bullet has been verified by an autopsy. It is well known that the projectile does not always follow a direct line. Furthermore, with such a rapidly moving body, it is impossible to estimate how much of the injury is due to the passing of the bullet, and how much to the resulting injury and hemorrhage.

Dr. Albert E. Sterne, Indianapolis—I see a considerable number of injuries of this class, penetrating and otherwise, and I must confess, like Dr. Brainard, that some of the results are certainly surprising. We occasionally see cases of penetrating wounds of the skull where the appearances indicate that the bullet traversed directly from one opening to the other, and yet at autopsy we find that such was not the case.

The peculiar construction of the skull is apt to cause deflection of the bullet, but this does not occur when a solid weapon, like a sword or knife, is used. There are numerous instances on record of penetrating wounds of the skull having left very few symptoms. The records of the War Department are full of such cases, in which men who were shot through the head walked unassisted to the rear. I recall one case which created considerable excitement in Indiana, and which had great forensic importance. A man was accused of killing his wife by shooting her through the head, the course of the bullet being very similar to that in the case reported by Dr. Lindsay. The statement was made in court that after the woman was shot she got up, put her arm around her husband's neck and talked with him. Her dead body was subsequently found outside the house, on the threshold of the back door. I was called to testify in the case, and the question of brain localization played an important rôle. To this day, the guilt or innocence of the man is an unsettled question to many who followed the details of the case. The assertion was made by the state that the woman could not have walked nor talked after the receipt of the injury. In the case reported by Dr. Lindsay, the fact was lost sight of that the actual injury to the brain substance by a rapidly moving projectile is not nearly so great as where the passage of the projectile is slow. The velocity of the bullet is so great that it does not force the elastic brain tissue before it, but pushes it aside, and if there is no secondary suppuration or softening, and the hemorrhage is not excessive, the amount of damage may be comparatively slight. We sometimes see curious results after injury to the spinal cord, in connection with which we would be led to believe that the symptoms would be absolutely sure and infallible. A little over a month ago I saw a man who was shot through the left lung, two inches above and three inches to the outer side of the left nipple. The bullet passed through the lung and lodged to the right side of the spinal cord, just beneath the lateral process of the seventh dorsal vertebra, where I found it at the time of the operation. As the result of his injury, the man was completely paralyzed as to motion and sensation from that point down. The line of demarcation was absolute. There was total motor paralysis, total sensory paralysis, incontinence of the bowels and bladder, and not a single reflex could be elicited; no foot clonus, no cutaneous nor cremasteric reflex. I gave it as my opinion that the projectile, which was a 38-caliber bullet, had severed the spinal cord. At the operation we found the bullet in the spinal canal, but the cord itself was not interrupted; it was merely pushed to the left side by the bullet. The symptoms in this case, as compared with the actual lesion, were contrary to all my experience and teaching. The man was injured Feb. 7, 1903, operated on February 21, and died eight days later. At the autopsy, a section of the cord, including the bullet and the seventh, eighth and ninth spinous processes were removed, and they formed one of the exhibits in the case. The lungs were the seat of a double pneumonia. The coroner ordered the autopsy on my absolute refusal to grant a death certificate unless it was done. This case is merely alluded to, to illustrate that even in conditions of spinal injury we can not always definitely state the extent of damage done. In the brain, injuries are even less accurately determinable.

DR. W. S. LINDSAY—In my case, numerous fibers were destroyed, it seems, without producing apparent loss of function. In answer to Dr. Sterne, it is fair to say that the area of injury is not limited to the actual size of the projectile; the injury no doubt extends beyond the actual path of the bullet, and that fact makes it all the more remarkable that there was no loss of function in this case.

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A New Method of Sharpening Knives.—A German experimenter named Bernhard, says the London *Lancet*, quoting the *Engineer*, has discovered that aluminum may be used for putting an edge on fine-cutting instruments. He found that when steel was rubbed on it the aluminum disintegrated with the formation of a powder of a somewhat greasy nature which clung to the steel with great tenacity and assisted in cutting away the hard surface of the metal.

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# A CLINICAL STUDY OF EPILEPSY.*

J. G. BILLER, M.D.
CHEROKEE, IOWA.

The light which science has thrown on this subject is so slight that to-day we are almost blindly groping in the dark, and those of us who come in contact with this fearful malady reach out our hands and grasp first one object then another, hoping that we are going to find the match whose tiny spark may finally illuminate the darkness about us. We can not help believing that with our increased knowledge of the secretions and excretions of the various glands of the body and the changed conditions of the blood from these and other sources, coupled with our better understanding of the nervous system, that we must to-day be in close proximity to the source of light.

I have no intention of wandering into the clouds of speculation and theory, but wish to speak of a few things that I think important in our present darkness, well aware that further light may relegate them to the rubbish pile as useless and unnecessary.

My first experience in epilepsy was in early boyhood; one of my playfellows, who was a strong, bright vigorous boy, began having peculiar spells that increased in frequency and violence till he became an object of fear to the children with whom he played, and was finally tossed on the shores of life a battered, hopeless, intellectual wreck. I remember asking the question then which I have so often asked myself in later years, "what makes him do that?"

It is well for us to continue asking this question and to search diligently for answers to it, for it is our knowledge of the cause or causes that enables us to benefit these unfortunates with our care and treatment. Our search for the cause may not be successful, then we are forced to return to our time-worn battlements and say that it is due to an easily excited or unstable condition of the cortical cells. "Why are these cells in this condition?" is our next question. When we are able to answer this, we will have arrived at a position from which we can observe the underlying causes of epilepsy, and begin to handle it in an intelligent and scientific manner.

Of course this instability may not always be due to the same thing, and to attempt to define or explain the various factors will simply be leading us into the wilderness of theory, where I do not care to wander just now; whatever may be at the bottom of this condition the fact remains that in the epileptic we have a cortical cell that is unstable and easily excited; so much does it resemble the cells of infancy in its response to irritation or stimulation, that we can rationally look on it as an immature cell, and by comparing the epileptic seizure with the convulsion of the infant we may observe facts that will be useful in treating the former. How well we know what things to look for in the ordinary infant; when it has a convulsion, some peripheral irritation or systemic poisoning is undoubtedly the cause; and the stomach, bowels, kidneys, prepuce, nose and ears are all examined. Failing here, we inquire as to exposure to heat, cold, or contagious or infectious disease, and somewhere among these we are almost sure to find the source of trouble. As it is here we find the exciting cause of convulsions in infants, so it is here we so often find it in the epileptic: for I believe that many cases of epilepsy are nothing more than the simple convulsions of infancy and childhood, where the cause has been overlooked or neglected till the epileptic habit has been formed.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

It is for this reason that it is of such importance to early recognize the possibility of convulsions or peculiar spells (as they are so often called) of infants or young children being epileptic, and especially if there be a history of epilepsy in the family. Too often we allow these children to go without much attention, thinking it is nothing more than some habit or trick of childhood, and will pass off after a time. Frequently these cases are spoken of to the busy general practitioner when he is called to see some other member of the family, and he, occupied as he is with his principal patient, thoughtlessly says: "Oh, that will not amount to anything," or, "The child will outgrow it," and the case is neglected until we have a well-marked epilepsy on hand. I have seen enough of this to make me at once interested in any child that has spells. It is in these early cases that I have had what I consider good results from treatment. I am well aware that it may truthfully be said, that these may not be epileptics and probably would have recovered without treatment. It is hard to define just what is epilepsy and what is not; but if a child has a history of spells of unconsciousness, no matter however brief, that occur at intervals and has had an epileptic ancestor or relative, however remote, we have good ground for considering the case of epilepsy and treating it accordingly, instead of awaiting further developments, for by the time it has developed so that our diagnosis is assured it may be too late for the best results from treatment.

I probably learned as much from the first case of epilepsy I treated as from any case I ever had under my care. It was a boy 3 or 4 years old who made a perfect recovery after having taken large doses of potassium bromid for six months without benefit and I hope without injury. He was cured by three bottles of some kind of patent worm medicine, taken at the suggestion of a neighbor and very much against my advice. This child had no worms, but he did have a distended abdomen, constipated bowels, foul breath, a poor and irregular appetite. The worm medicine got rid of these conditions, and the epilepsy was cured.

A year or so after this somewhat unique postgraduate course in epilepsy, I saw a case very similar and, making use of the knowledge I had obtained in my previous humiliation, I prescribed the old-time worn remedy, pink root and senna, not because of its vermifuge qualities, but for its action on the intestinal tract, and much to my satisfaction, the child soon recovered from the epilepsy.

Since then I have had a number of cases of this kind, and the result of this treatment has, with one or two exceptions, been very gratifying. Do not misunderstand me and think I believe that these drugs are a cure for epilepsy, for I do not think so, but they have a favorable action on the digestive tract, toning it up and removing irritation caused by partially digested food and foul and poisonous gases, and this relieves the cortical cells of a source of annoyance.

In treating epilepsy we can not be too careful in the examinations of our patients and especially regarding their habits, history and peculiarity of their attacks and any relationship that may exist between their habits and attacks. The necessity of all this knowledge was once demonstrated to me by a young man who had acquired epilepsy about a year before I saw him. He had been treated with immense doses of bromid by various physicians, and I simply continued the bromids in the form of the strontium salt, which he had not had before. This did not benefit him, and he seemed to take special delight in returning week after week to tell me it was doing him no good. Each visit added a little to my knowledge of the case. I finally realized that there was a relationship between his meals and the epileptic attacks, which generally followed breakfast and dinner, but seldom came on after supper. I also found that he went to bed early, and that it was usually two or three hours after breakfast or dinner that he had the convulsions. When these things became clear to me, I stopped the bromids, advised staying in bed all the time and modified the diet. In a short time the convulsions ceased. After two months in bed he was allowed to get up and nine months later was still free from the epilepsy. We will occasionally meet these cases that surprise us by getting well, and just why we can not explain.

A year ago I saw a little girl, 11 years of age, who had always been well and strong in every way till about one year before I saw her, when she suddenly began having convulsions; not getting relief from their family physician, she fell into the hands of various quacks, who treated her for several months, then she was taken to a surgeon. By that time her convulsions were becoming so frequent that she was having them about once an hour. The skull was trephined over the left motor tract and the brain was freely explored with a long needle, nothing abnormal being discovered; the child remained in a stupor for some days after the operation, and when this passed off she was free from convulsions, but idiotic, had lost nearly all muscular power, and was unable to swallow. She was in this pitiable condition when I saw her two months after the operation. She was then put on syrup of hypophosphites, cod liver oil, internally and externally, milk, cream and meat broths. It was hard work to feed her, but it was done, although it took time and patience. Much to my surprise, in less than two months she was able to sit up and to walk some, and is now to all appearances perfectly well, both mentally and physically.

The cases that I have thus far been touching on are principally cases of epilepsy in which the habit has not become fixed. They were in the state of development and were checked by the various means employed, but we all know too well that it is only a comparative few of these cases that yield to our treatment, and the question is ever present, what we shall do for the remaining ones, those who are condemned to be victims of this terrible sickness. Even among these people there remains a large and fertile field for us to cultivate, and we are not justified in saying at any time because the case is incurable by our present methods, that nothing can be done. Much can be done to benefit these unfortunates; even if they can not be cured, they can be materially helped, and now comes the important point, how shall we treat them and what shall we do for them? I must again repeat myself, and say that we should make a most careful study of our patients and continue this study till we are perfectly familiar with them in every way, if such a thing is possible, knowing how they eat and sleep, all their peculiarities, and especially about their organs of excretion. After we know all these things and many more, we then can begin to treat them rationally and with some hope of benefit, if we treat the patient and not the epilepsy. This treatment should aim at one thing in particular—to do everything to increase the vigor and health of the entire system, and in this connection trying to increase the vigor of the cortical cells, that the whole system may be brought to the highest point of perfection; the assimilation and elimination must be as nearly perfect as possible, food must be carefully selected. Each case is a study of itself; no regular line of diet can be laid down for all these people. What suits one may be a damage to another; the organs of elimination must be carefully observed; every effort possible should be made to prevent auto-intoxication. If this could be perfectly accomplished, I believe incurable epilepsy would be a thing of the past, but as we can not with our present knowledge accomplish this, we must do the best we can, and see that the organs of elimination that we are familiar with do their work properly. The bowels often are hard to handle, cathartics, enemas, diet, massage, all failing to keep them active. I have seen the kidneys go for even 48 hours without secreting urine just before an epileptic seizure. If we are helpless to prevent these conditions, we can not hope to control the epilepsy while the system is poisoned by retained fecal and urinary matter.

Much can be done by regular habits and exercise, baths, massage and fresh air; but I have found nothing so valuable as the high frequency current and the vibrator. The high frequency current seems to have a tonic effect that I have never seen from any other form of electricity, nor from anything. While it strengthens the general nervous system, it does so without exciting it; in fact, it often quiets it better than bromids or any of the sudorifics. It will frequently check that terrible restless nervousness that so often precedes an epileptic cycle, and will cause the patient to quiet down and go to sleep, thus aborting the attack entirely, or if not, relieving the general severity of the convulsions. It assists in the elimination and strengthens the muscles and nerves, thus relieving the constipation and indigestion, and keeps the kidneys and other glands up to their work. My experience with this treatment, not only in epilepsy but in other diseases, makes me believe that in it we have a most valuable and rational treatment, for many of the conditions of the epileptic, especially in children, where we can hope that natural development, thus encouraged and assisted, may materially improve the defective system.

It might be well here to notice the bromid treatment of epilepsy. The majority of authorities on this subject speak of it as the sheet anchor of our treatment and advise the increasing of the dose until desired results are obtained, and then a long continuation of the treatment. I am sorry to say that this advice has been followed almost literally by a great many who paid but little attention to any exceptions or any other directions that may be given. I have seen what I believe to be very disastrous results from this promiscuous prescribing of bromids, especially in young children. They have degenerated both mentally and physically so rapidly that it was impossible to attribute it to any thing but the large doses of this drug. While I can see how we may get good results in adults, and even in some children from them, I have yet to see any case of epilepsy that has been permanently benefited by this treatment. I have seen many cases where the attacks were diminished and even interrupted for a considerable period, but they have always returned and the patient has been in a worse condition than at first. I am not prepared to say, neither do I think, that the whole bromid business is irrational and wrong; but I do think that in a large proportion of cases it is used irrationally and without much consideration of the manner in which it acts. If we can by the use of these salts numb or stupefy the cortical cells for a time so as to get them to forget the convulsive habit and at the same time, by other means, remove from the system the cause of their irritation, we may do some good with the bromids; or if we can, while controlling the convulsions with them, carry on a line of treatment that will strengthen the general system and increase the resistance of the cortical cells, we may be justified in using them; or if we can establish the fact that they not only inhibit the cortical cell, but at the same time destroy some substance in the system that irritates these cells, then we could feel that they should be used in the liberal and careless manner in which they now so often are. My own experience would hardly uphold this last supposition; with my present ideas, if I were to administer bromids at all it would be only for a short time or while carefully observing the general condition of the patient, and stop them as soon as I saw signs of injury. Too often we are unable to see any indication of harm till serious damage has been done; for these reasons I do not like to give them in chronic cases, although the temptation to do so is often great. It is doubtful if any other drug gives us better results, for although many of those recommended for controlling the convulsions will do so for a time, the system seems to become accustomed to them and they lose their beneficial effect, and it is questionable if we have gained much by their use.

# RELATIONSHIP OF EPILEPSY TO CHRONIC GASTRO-INTESTINAL DISEASE.*

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While the pathology of epilepsy is, as yet, an unwritten chapter, there are several inferences which appear to me fairly well grounded. One of these is the existence of an organic defect in the finer and as yet inscrutable ultimate structure of the corticospinal neurons. Concerning the nature of this defect we are quite as much in the dark, but not any more so than we are with reference to the cognate defect which underlies hysteria. The assumption in both cases of such a fundamental deviation from the average normal type of construction of the nervous system, of the existence of inherent tendencies which are exceptional rather than typical, and which are possibly always inherited, or at least acquired during the early developmental period, appears to me absolutely necessary to explain why apparently identical causes will produce the clinical manifestations of these neuroses in one case and fail to do so in a hundred others. Whatever may be the real character of this change or deviation from the normal type, it is permanent and must be organic in nature. It bestows on the individual the liability to have epilepsy. He has, so to speak, potential epilepsy. Whether he ever has the manifest symptoms or not will depend on a variety of circumstances. Perhaps in one group of cases the psychical, sensory or motor instability, incident to this underlying organic basis, may be sufficiently strong to give rise to an evolution of the active disease, spontaneous in character. This, however, may well be doubted. The spontaneity is probably only apparent. Intrinsic or environmental conditions may easily furnish unrecognizable though efficient causes. In other cases the so-called exciting cause is sufficiently obvious—a traumatism, an emotional shock, an acute illness, a failure of elimination, etc. These are, however, the common incidents of life and are only efficient exciting causes of epilepsy in the presence of something entirely exceptional in the individual, namely, the organic basis already assumed.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

It is perhaps idle, in the existing state of our knowledge, to speculate on the nature of these variations from the usual or normal type of the nervous system. In using the term organic to designate them, it is not intended, of course, to convey the idea that they are demonstrable by our present means of research. The term, owing to its traditional associations, is even objectionable, but I have made a requisition on my vocabulary in vain for a substitute which would be at all adequate. In some sense these conditions which form the underlying permanent basis of such states as epilepsy and hysteria must be anatomic in their nature. That we are unable to determine their nature, or even demonstrate their existence, is simply a question of the limitations of our knowledge at the present time, or possibly for all time to come. A proper conception of this anatomic basis, however, should not have to wait on its histologic demonstration. Our general knowledge of pathology and the relation of structure to function would seem to point with sufficient logical force to the anatomic character of this underlying condition. A proper view of these conditions is important, if for no other reason than to throw a little restraint on harmfully aggressive and irrationally meddlesome therapeutics.

The other most important factor is that of irritation or excitation already referred to, and which may be of the most diverse character. It is with special reference to one of these groups of this causal condition, viz., those connected with the digestive organs, that this paper has been written. The cases of epilepsy, the study of which forms the basis of this paper, have been made the objects of more or less critical study with reference to digestion, metabolism, etc., and in many instances the relationship of the epileptic phenomena to these various disturbances has been shown to be of the closest character; so close, in fact, as to appear to fully justify the appellation of not only an efficient but an essential exciting cause. On the other hand, I am bound to say that in still other cases, at least superficially indistinguishable in type, no substantial results have been obtained. There must, of course, be radical and essential differences in these two groups of cases. It would seem to lie in one or both of two directions—either a difference in the grade or severity of the assumed organic or anatomic basis, which constitutes the potential epileptic state, or in the co-existence of other recurrent exciting causes, concerning the nature and identity of which we remain entirely ignorant.

There is, however, still another group of cases in which the efficacy of a removal of these exciting causes can not be adequately tested because of their remarkable intractability to treatment. Some of these cases are probably explained by lack of control with reference to diet, hygiene, etc.; but after making due allowance there remains a small group of such cases in which I have been forced to the conclusion that there is in some way a reversal of the relationship above indicated. In other words, the intractable nature of the disease of the digestive organs is in part at least due to perverted innervation. Whether or not there is an instability of the neural mechanism which presides over the musculature and secreting functions of the digestive organs, I am unable to say. The existence of such an influence would not be at all incredible. We know that the psychosensorial areas of the brain are involved as well as the motor, and the sympathetic, which is really subordinate to the cerebrospinal axis, or rather a subordinate part of it, may easily be implicated. Moreover, both the stomach and the intestines are in part supplied directly from the cerebrospinal system by the vagus. I do not now have reference to anything in the nature of a convulsive phenomenon, although this question might well be raised. I refer rather to a disturbance of what might be called the tonus of the neuromuscular mechanism of the digestive apparatus during the interparoxysmal periods. It finds its analogue in the weakening of the inhibitory control of the psychomotorial functions during the same period. If this condition can be assumed in the digestive tract, it furnishes a ready explanation of the clinical facts just cited. Motility is quite as essential to normal digestive function as digestive fluids, and if food stasis occurs, there exists a perfectly obvious source of toxemia, from gastrointestinal absorption. In addition, however, to the results of impaired motility, we should consider morbid variations in the character of the digestive fluid from the same causes. We have more direct evidence of such phenomena in neurotic patients than we have of such disturbances of motility as those above referred to. In the stomach, the secretions of which are most easily studied, we know that such patients show remarkable variations in the character of secretions, e. g., hyperchlorhydria at one time, and possibly achlorhydria at another. It is perfectly certain that such variations can not be due to structural alterations in the oxyntic glands. Their explanation must be assigned to the nervous mechanism of secretion; and it is more than probable that many of the bizarre gastric phenomena so often seen in epileptics, at least in my own experience, has a similar origin. The disturbances of motility and secretion which are so easily demonstrable, and so frequently observed in the stomach have, it is fair to assume, their analogies in the functions of the liver, especially its influence on metabolism, intestinal toxins and intestinal absorption.

I am firmly convinced from my own experience with these cases that in dealing with their digestive disorders, we must consider them in relation to the underlying defect of the nervous system, which has a distinctly sinister influence, and has at times been what seemed to me the one insurmountable obstacle standing in the way of at least some amelioration of the case. The following is a brief outline of such a case:

Mrs. K., aged 27. Referred to me March 27, 1899. The epileptic seizures had been recurring for about nine years every three or four weeks. Prior to that her health had been considered good, although she had evidently always been a marked neurotic, with somewhat belated development. Menstruation began past 15, and had always been scant, and her powers of endurance, mentally and physically, had never been good.

The epileptic seizure consisted first of a spasm of the muscles of deglutition, followed by general tonic and then clonic convulsions, with perfectly clear consciousness, and finally unconsciousness, passing into a deep sleep lasting three or four hours. Following this she would be decidedly ill from general nervous disturbance for three or four days when she would regain her ordinary type of health, which was really very far from good. There was, among other things, a history of gastro-intestinal disturbance, the symptoms comprising distress after eating, eructation of gas, constipation, and especially just before the epileptic period developed enormous gaseous distention of the entire abdomen, so extensive as to be the source of great distress.

Examination revealed chronic gastritis and colitis, and the patient was placed on suitable treatment with the expectation of decided benefit. I have every reason to believe that in the matter of diet and hygiene the patient's co-operation was intelligent and complete, and the treatment was the best that I could give her from every point of view, local and general. The character of the local morbid processes was such as would ordinarily yield to the line of treatment instituted, but in this case proved utterly rebellious. There was no substantial improvement in either the gastro-intestinal disease or the epilepsy during the time that the patient was under observation—which was perhaps two or three months. The putrefactive processes of the intestinal tract seemed entirely beyond control by either diet or medication combined with suitable local treatment, and the patient finally passed from observation unimproved.

Another case of an entirely different character was that of a boy about 15 years of age whom I first saw 5 years ago. There was a history of irregular nocturnal attacks of grand mal closely associated with exacerbations of a chronic stomach disease. In this case an apparent cure of epilepsy followed a comparatively brief course of treatment. I heard from the patient at intervals through his physician, and he remained well for over three years. Owing to the death of the physician, who lived some distance away in an adjacent city, I lost track of the case. My record might have shown permanent cure, and three years would apparently have justified the record had the patient not been brought to my office within the last year by another physician with a recurrence of the epilepsy after about four years of complete freedom from attacks. Apparently other causes were operative, as nothing more than marked improvement has been secured, although bromids were given during the last course of treatment, but not during the first.

Many cases could be recited showing varying degrees of improvement for varying lengths of time, clearly as the result of suitable treatment of the digestive diseases without bromid or other sedative medication. It will scarcely be proper to discuss in detail the local and general measures directed toward the gastrointestinal diseases. This belongs to another section, at least so far as the severer types of disease are concerned. The importance of giving proper attention to the digestive organs in general is fully recognized by every physician, but is emphasized by facts such as I have presented. It would appear desirable, however, to give more attention to an exact diagnosis of the morbid states of the gastrointestinal tract. Unless the physician is prepared to carry out the technical methods of diagnosis, as well as of treatment where this is indicated, the services of the specialist should be invoked for this purpose, if it is desired to do all that can be done for this group of cases.

I think there is no doubt that this line of treatment is of great value in cases of epilepsy associated with either obvious or latent gastrointestinal disease; and it should be remembered that there are many cases without obvious symptoms. I have not infrequently found large amounts of semi fluid débris in the fasting stomach where all stomach symptoms were denied. This forms, both in those which are latent and in those with manifest symptoms, an excellent culture medium, and is usually, in fact, a rank growth of a mixed infection. Bacterial toxins are necessarily formed in large quantities and absorbed in the circulation. The infected culture fluid also passes on into the intestines and intensifies the infection there. We must also consider the local irritative effect of these morbid constituents on the terminal vagosympathetic filaments of the gastric mucosa. Such reflex phenomena may well be disturbing factors in cases with marked instability of the nervous system.

There are doubtless other ways in which disturbance of the digestive tract may directly or indirectly exert an unfavorable influence on the frequence and severity of epileptic attacks. Enough has been said, however, to indicate the relationship of these disturbances to epilepsy, and I will not occupy more time in its discussion.

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# ECHINOCOCCUS CYST OF THE LIVER,

## WITH REPORT OF A CASE WITH OPERATION AND RECOVERY.

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There are two forms of hydatid cyst which show themselves in the human liver. The more common one is the *Echinococcus cysticus;* the rare one is the *Echinococcus alveolaris.* The life history of the *Echinococcus cysticus* has been very fully studied by Leuckart, and further studies may be consulted in Bulletin 19 of the Bureau of Animal Industries of the United States Department of Agriculture, published in 1898.

### LIFE HISTORY OF THE PARASITE.

The position of the echinococcus cyst in the life history of the animal is extremely interesting. A tapeworm (Fig. 1) only 1.5 to 3.0 mm. long, which infests the intestinal tract of the dog and other canidæ, deposits its eggs by millions with the excreta. By natural processes the eggs are washed out of the excreta and fall on vegetation, which sooner or later becomes the food of man or other intermediary host, mostly the herbivora. In the intestinal tract of the host a few of the eggs are so acted on by the contents of the stomach or intestines that the shell falls off and the embryos gain access to the circulating juices of the body. Either actively or passively they are carried through the portal circulation and reach the finer capillaries of the liver. Here they develop into enormous cysts, which by a complex system of budding (Fig 2) become multiple embryos. On account of the presence of the cysts, the intermediary host suffers in health and strength, and is, therefore, more easily overcome and devoured by the primary host, the dog or other canidæ. The dog consumes the infected liver; the embryos are set free and attach themselves to the lining membrane of the intestine by the hooklets with which they are provided. Here they become messmates and perhaps parasites of the dog, and complete the circle of their existence by a bisexual development and the discharge of millions of eggs in the excreta.

### GEOGRAPHICAL DISTRIBUTION.

The geographical distribution of echinococcus is extremely interesting. It is a common affection of dogs and men in Iceland, some parts of Australia, and in the Provinces of Mecklenburg and Pomerania. In the neighborhood of Greifswald 68 per cent. of the cattle, 51 per cent. of the sheep, and 5 per cent. of the hogs are, according to Piper, afflicted with the echinococcus disease. In France, England, and other European countries; in Algiers and Egypt, the echinococcus is occasionally observed (Fig 3). In America only one infected dog has ever been found. Some few imported cases have been recognized in men, and a few so-called sporadic cases. In northern Michigan, Minnesota, the large cities, and in the Province of Manitoba, the disease has been recognized in immigrants from Iceland, Mecklenburg and other European countries. Fifty-nine cases have been reported from New York, 56 from Manitoba, 24 from Pennsylvania, 13 from Maine, 9 from Ohio, something like 250 in all.

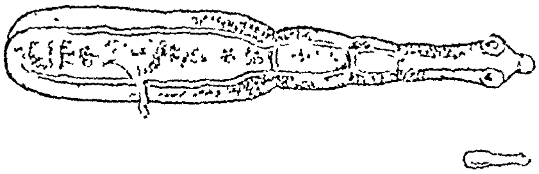

Fig. 1.—The tapeworm of the dog, one-half natural size and magnified.

### CLINICAL HISTORY.

More than half of all echinococcus cysts are found in the liver. They are usually single, and more often appear in women than in men. They usually occur between the ages of 20 and 40, though children and those of advanced years occasionally suffer. In the liver the cysts are more often in the right lobe than elsewhere. The form of the liver is changed to correspond with the location of the cyst, with its size, and the rapidity of its growth. The position of the cyst may sometimes be recognized by the bulging of the liver, either toward the diaphragm, downward into the abdomen, or in some other direction. Rarely the cyst may obstruct the biliary passages, and thus produce jaundice or partial jaundice; sometimes it produces pressure on the vena cava, sometimes on the portal vein and sometimes on the blood supply of the liver itself, producing gangrene.

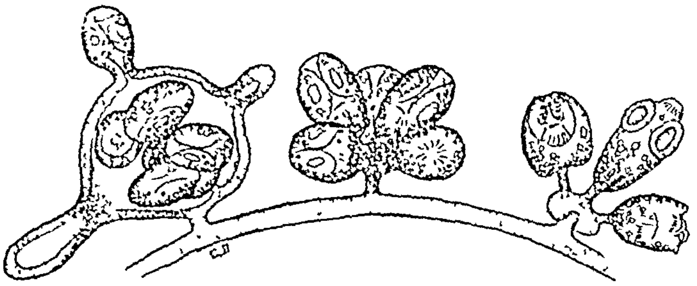

Fig. 2.—Different methods of budding (from Leuckart).

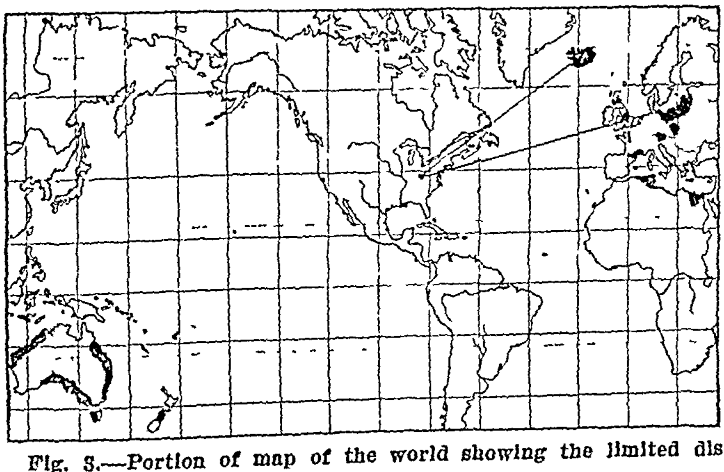

Fig. 3.—Portion of map of the world showing the limited distribution of *E. cysticus*.

As a result of pressure atrophy, the cyst advances in one direction or another, and occasionally opens into the general peritoneal cavity, or some viscus, into the pleural cavity, into the pericardium, and even into the pelvis of the kidney. Rarest of all, it breaks through the skin of the abdominal wall.

Traumatism may result in early rupture of the cyst, and this again in death. At other times the same accident may bring about the recovery of the patient and the cure of the disease.

Suppuration sometimes takes place in the cyst and produces abscess of the liver. The cyst frequently dies, and its contents, being sterile, undergo the ordinary changes which are to be found under like conditions in cysts of other origin. There are no complications which occur in abscess of the liver which may not occur in echinococcus cyst.

### SYMPTOMS AND DIAGNOSIS.

The symptoms of hydatid cyst of the liver are so indistinct that the tumor is frequently the first suggestion of the disease. Cysts as large as the fist are often latent and unsuspected. There are no abnormalities which can be recognized in the urine. The absorption of toxic elements occasionally gives rise to urticaria and digestive disorders, especially to a repulsion for meat and fatty foods. This is sometimes so severe as to produce vomiting or diarrhea. Psychoses of various forms often show themselves in the course of echinococcus disease, but the only one which is frequent enough to be of diagnostic significance is the urticaria. The gastric disorders may be either psychic in their origin, or they may be due to interference with the biliary secretion, or to the movement of food in the duodenum by pressure.

The patient usually complains of fulness and heaviness and sometimes of pain and pressure in the region of the liver. Jaundice occasionally shows itself in the mild form, and the stools are interruptedly clay-colored and stained with bile. The liver, as a whole, is somewhat enlarged, and the location of the tumor may give an irregularity suggestive of abscess or carcinoma. The hydatid thrill which has long been recognized is not often observed even in the presence of large hydatid tumors, and it is sometimes present when the tumor is located in the omentum, mesentery or pancreas. Abscess of the liver also occasionally presents the thrill. This test is made by laying the left hand over the tumor and lightly tapping the opposite side of the tumor with the fingers of the right hand, the fingers being retained quietly in position for a few minutes after the tap is made. A peculiar vibration is felt somewhat resembling the vibration of a violin under a very low tone. The examination of the blood is not significant. There is a mild anemia, which progresses with the continuance of the disease and is increased by interference with the biliary or digestive function. Only a small proportion of cases of hydatid are diagnosed before the autopsy.

### NARRATION OF A CASE.

In my own practice I have seen three hydatids. Two were on the postmortem table at Cook County Hospital; one in an Icelander, and one in a German of unknown nativity. Both were hydatids of the liver and both were unrecognized before death. The third case is one in which the diagnosis is perhaps a little obscure. The conditions found at the operation would indicate that the hydatid was dead and sterile, and was undergoing a degenerative change. The history of the case was carefully written before the operation, and is of sufficient interest to be reproduced:

*Painful affection of the hips, extending over two years, in an American girl of German parentage; appearance of a tumor or enlargement of the liver; under observation for four months; exploratory laparotomy; removal of a dead cyst and evacuation of a large sterile cyst; recovery.*

*Previous History.*—Nov. 28, 1902, Miss D., 20 years old, born and reared in northern Illinois, was placed in my charge by Dr. Robert H. Babcock. She gave the following history: When a child she was very ill a number of times with the croup, and she also believes that she had measles; her girlhood was generally healthy, and she was of vigorous bodily habit. Twice she has had a condition which was diagnosed la grippe; once in 1893, and again in February, 1902. This last time she was very sick for about ten days. During this attack an eruption appeared on her shoulders, hips and knees, which faded out during early convalescence (urticaria?). She has suffered acute tonsillitis once, and last winter she had a so-called facial eczema which ran a course of about five weeks (urticaria?). Three years ago and without apparent cause, she suffered from nervous prostration. A few years ago, when run down in health, she had a few fainting spells that lasted only a few minutes each, and she insists that she was not hysterical at the time. She suffered for several years with headaches, which disappeared on wearing suitable glasses. She has never at any time had chills or fever. At thirteen she began to menstruate, but this function has not always been regular, and when irregular has been too early. For the last year menstruation has been regular. In October she menstruated a week late, and after that time she did not menstruate until the first week of March following her operation. Her menstruation is normal, with no great amount of hemorrhage, no pain or psychic disturbance, and she does not go to bed.

*Family History.*—Her family history is splendid. Her parents were German born; her father died from an overdose of morphin; her mother, 56 years old, is in good health. She has three perfectly developed brothers, and there have been no deaths among the children in the family. No close or distant relatives have died from tuberculosis or cancer.

When a child she played with a little girl suffering from a suppurating middle ear, but she does not remember having lived in the house or associated with any one who had consumption or a running sore. She never played with a dog or had a pet except once when a girl. It was a white, shaggy poodle, and she had it for not more than a year or a year and a half. The house in which she has lived most of her life is isolated and not overhung by trees. Her room was on the second floor, with two south and one west windows. The water supply of the house was a well of very hard water. While away at school she was in a pleasant room, abundantly lighted and supplied with water from a well. The school was situated on high and well-drained land.

*History of the Disease.*—Four or five years ago, about 1898, she began to have pain in the left hip; this pain did not make her limp. She consulted Dr. John C. David, Sandwich, Ill., who treated her for a year and then took her to Dr. George F. Shears, Chicago, who considered the trouble due to some disturbance in the pelvic circulation. In the spring of 1900 she made a tour of several months in Europe. She stopped at Bremen, Einbeck, Hanover, Frankfort, Strassburg, Lindau and Berlin. While in Germany she often walked three or four miles a day, but had no pain in her hip. She sometimes had pains radiating from the knee to the ankle and up around her back. She returned from Europe in the fall of 1900 feeling quite well, and had no further trouble until the spring of 1901, when the pain in her hip returned very suddenly one afternoon. Rubbing the hip and leg with alcohol seemed to relieve her suffering, but in two or three weeks the pain had extended into the knee and ankle and had become so contant and severe that she called Dr. L. L. Culver, Sandwich, who put her in the care of Dr. A. J. Ochsner early in September. Dr. Ochsner diagnosed tuberculosis of the left hip, and put her to bed at the Augustana Hospital with extension on the left leg. At the end of a week she began to suffer severe pain in her right hip, and extension was placed on this leg also. She remained in the Augustana Hospital for four weeks with extension on both legs. She was then removed to her home and the extension was continued six weeks longer. The extension was then removed from both legs and she was kept in bed for a month. After some preliminary treatment a splint was applied to the left leg and she began to walk with crutches. The extension and the rest in bed had relieved the pain in the hips, and when she began to walk she complained of nothing except weakness in both hips.

In February, 1902, she had an attack of la grippe, with urticaria and a slow convalescence, after which she abandoned her crutches and began to walk with a cane. In July, 1902, she again had pain in the left hip, which was greatly relieved by rubbing the leg with alcohol. On admission to the hospital she had occasional slight pains around the left hip, which she said were not deep. She had had no pain in the right hip since the extension was taken off. She walked gracefully and without limping.

About the middle of September, 1902, she returned to her school at Naperville, Ill. She felt quite well and gained ten pounds in weight during the five or six weeks she was there. Late in October, however, she noticed a swelling on the right side of the abdomen above the umbilicus, which seemed to her to increase slowly and regularly in size and outline. While taking deep-breathing exercises she noticed considerable pain in the region of the liver. For two or three months previously she remembers that she had difficulty in digesting potatoes and other vegetables, and was constantly distressed after eating by the fermentation of her food and the formation of gas in her stomach. The very sight of meat and potatoes, white bread and ordinary articles of diet, disgusted her, but she enjoyed thin soups, fruit, candy and ice cream. She was inclined to be constipated, but after she had eaten and had eructated gas from her stomach her bowels would move very loose and watery. For a few days in October she remembers that her feet were swollen early in the morning. During the months of October and November she had pain over the region of the gall bladder and liver and in the muscles of the back. This pain radiated to a spot in the neighborhood of the fourth right rib behind, sometimes rising into the shoulder and extending to the left shoulder when lying down. Late in October, 1902, she consulted Dr. Culver, Sandwich, who made out a great enlargement of the liver, but she nevertheless returned to school. After this she became slightly jaundiced and was greatly depressed in spirit. November 24 she consulted Dr. Robert H. Babcock, who placed her in my care.

*Examination.*—The patient is found to be a young woman of perfect and beautiful development, with dark brown hair and dark gray eyes. Her skin and conjunctivæ are of a yellowish color, which is especially noticeable in the morning. She is five feet five inches tall, and weighs 120 pounds. She is well nourished; the skin is moist, and there is a slight edema of the lower extremities. The cubital and axillary lymph glands are not recognizable, but there are a few palpable lymph glands in the neck. The examination of the eyes, nose, mouth and ears reveals no abnormalities. The right lung extends downward to the upper border of the fourth rib in the mammary line, the fifth rib in the axillary line, and the seventh rib behind. The left lung extends to the lower border of the third rib to the left of the sternum, the sixth rib in the axillary line, and the ninth rib behind. Over this area the respiratory and vocal sounds are normal, and there are no evidences of consolidation, effusion or disease.

Cardiac dulness begins in the fourth interspace about three-quarters of an inch to the left of the mammary line; there is no cardiac dulness to the right of the sternum. It extends to the lower border of the second rib on the left of the sternum, to the upper border of the third rib in the mammary line. The apex beat is in the fourth interspace just external to the nipple; both tones are loud and distinct. Over the base of the heart the second tone is markedly accentuated.

The area of relative dulness of the liver begins in the third interspace in the mammary line, and absolute flatness begins at the lower border of the fourth rib in the mammary line, at the lower border of the fifth rib in the axillary line, and the lower border of the seventh rib behind. The edge of the liver is palpable below the costal arch and extends as low on the right side in the mammary line as the level of the umbilicus. It is just above the umbilicus in the median line, and extends across the abdomen to the level of the tenth costal cartilage. The anterior surface of the liver is smooth and uniform, dense and unyielding to pressure, and without fluctuation or any marked irregularity. The edge is distinct and round, and the notch of the liver is distinctly palpable. At a subsequent examination a few days later a distinct, irregular tumor was recognized and the accompanying sketches were made to represent it. (*Figs. 4 and 5.*)

The gall bladder, unless the tumor above is the gall bladder, is not palpable. The left lobe of the liver extends as far as the left axillary line and as high as the sixth rib; it seems to completely fill the left hypochondriac region. The spleen is not palpable as a separate mass to the left of the liver. No fremitus or thrill can be felt on palpation anywhere over the surface of the liver, nor can any friction sound be detected on auscultation. There is a marked bulging above the umbilicus and a little to the left of the middle line. There is no tenderness over the liver on moderate pressure; no enlargement of the veins of the abdomen or groin; no enlarged lymph glands about the umbilicus. The abdomen measures 31 inches at the ensiform cartilage; 30½ inches at the umbilicus, and midway between these points, over the most prominent protrusion of the tumor, 30¼ inches. The distance from the ensiform cartilage to the umbilicus is eight inches.

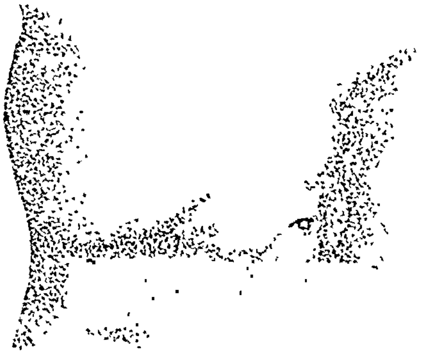

Fig. 4.—Showing outline of tumor on the right side of abdomen as sketched before operation.

The area of stomach resonance extended downward to the level of the umbilicus, and toward the left to the border of the tenth rib, about two inches lower than the palpable edge of the left lobe of the liver. The stomach contents were not examined. The right kidney was not palpable, and only at times could a suggestion of the lower pole of the left kidney be made out. There was no tenderness over the appendix or any other part of the abdomen.

The examination of the pelvis revealed a perfectly normal virgin sexual apparatus, and cystoscopy showed a perfectly normal bladder. The veins of the legs were not enlarged; there were no hemorrhoids; the nails on the fingers and toes were unmarked by ridges, the evidence of malnutrition, and were perfectly smooth and pink. There was no disease of the skin or hair anywhere on the body.

When the patient entered the hospital November 26 her temperature was 98, at 10 o'clock in the morning, her pulse 100 and her respirations 24. An examination of a specimen of urine gave an acid reaction, a cloudy appearance, a straw color, a specific gravity of 1010, with no albumin, sugar or casts, and only a few squamous epithelial cells, a few leucocytes and an abundant deposit of crystals of oxalate of calcium. During the following week her temperature varied between 97.5 and 99.5, with no noticeable character in its fluctuation. The pulse was regular, even and varied between 72 and 88. Her respirations when recorded were in the neighborhood of 20.

A number of complete urinary analyses were made, but they revealed nothing significant. November 30 she passed 1,000 c.c. of urine in 24 hours, of a specific gravity of 1006, an acid reaction, a trace of albumin present, but no casts; total solids were 13.2 gm., and the urea 7 gm. in 24 hours. December 3 another specimen of urine was examined. It showed an acid reaction, but only .3 per cent. of urea. On this day the ureters were catheterized. The left ureter gave 7½ c.c. of urine in 30 minutes, which would amount to 360 c.c. in 24 hours, making the total quantity for the two ureters 720 c.c. The urine from the left ureter was acid; it contained .3 per cent. of urea, no casts, no epithelial cells or abnormal microscopic findings. Following this catheterization she passed 9 c.c. of urine from the bladder at 2:30 p. m. This urine is presumed to have come from the right ureter. The characteristics were the same as those above. At 3:30 p. m. she passed 25 c.c.; at 4:00 p. m. 50 c.c.; at 6:30 p. m. 90 c.c. Every specimen of urine passed after the catheterization was slightly bloody, and had a specific gravity of 1010.

The catheterization was made with the Lewis electric cystoscope, the bladder being distended with air. By some mistake the right catheter was passed into the left ureter, which made it impossible to go on with the operation and pass the left catheter into the right ureter. The cystoscope was therefore withdrawn, and as the demonstration of the competency of the kidneys was complete, no further effort was made at catheterization. The blood in the last specimens was doubtless from the slightly overdistended urethra.

Frequent examinations were made of the blood; on December 2 one count made by Dr. Adams showed 5,160,000 red corpuscles; 7,800 white corpuscles, and a Fleischl hemoglobin percentage of 75. This was almost identical with the first count of November 29. December 22 the red corpuscles and the hemoglobin remained the same, but the leucocytes numbered 12,000 to the cmm.

The enormous enlargement of the liver and the findings which are reported above were inconsistent with any probable diagnostic hypothesis which occurred to me. The afebrile course, the low leucocytosis, the lack of prostration or toxemia, spoke strongly against abscess of any kind, except possibly tuberculous abscess or abscess due to the typhoid bacillus. Any abscess which would give rise to so little disturbance must necessarily be very chronic, or else within a natural cavity of the body. The uniform enlargement of the liver would be unexplained by an empyema of the gall-bladder, neither would it be consistent with abscess of the liver itself, or even with the improbable echinococcus of the liver. The history of pain in the hips, giving rise to the erroneous diagnosis of hip-joint tuberculosis, might possibly indicate the origin of the tumor affecting the sacral nerve. These nerves probably arise from the second, third and fourth lumbar, and the second and third sacral nerves. The history of the case and the general appearance of the patient seemed to speak against the diagnosis of malignant disease, and there is nothing in the history which points strongly either to carcinoma or to sarcoma.

After writing out the above indication and feeling the uncertainty of the diagnosis, I thought it prudent to send the patient home and give her the advantage of a therauptic test for syphilis of the liver. She was accordingly put under the immediate care of Dr. Culver, Sandwich, and given an eighth of a grain of corrosive sublimate hypodermically every day for ten days, and twenty grains of the iodid of potassium in milk or beef tea three times a day. During her stay at home she maintained a temperature between 102 and 103 every evening except one, and this evening she was more miserable than at any other time. Her morning temperature was regularly subnormal.

On December 19 she returned to the hospital. The girth of the abdomen immediately over the tumor had diminished one and a half inches. The notch and irregular spot on the edge of the liver had increased to the size of the fist, and was excessively tender. December 21 she was again carefully examined by me and Dr. Bertram Sippy, but no new points were brought out by our study together. He recommended an exploratory operation, probably for a suppurative cholecystitis. The leucocytes now numbered 12,000; the temperature remained permanently above normal; the urinary secretions showed an excessive amount of coloring matter, probably bile pigment, and a little albumin and peptones.

*Operation.*—The patient received the usual preparation for a laparotomy, and on the morning of December 22, with the assistance of my associates, Drs. Frank Blatchford, Edward T. Alford and Will H. Moore, I made the operation. The anesthetic was nitrous oxid gas, followed by chloroform, and afterward, at 11:30, by ether, and was administered by Dr. D. H. Galloway. After the preparation of the skin of the abdomen, the abdominal wall was opened and the tumor discovered at 11:15. The protrusion which had been felt in the neighborhood of the umbilicus was found to be a hard, white, superficial tumor in the border of the liver near the fissure. Behind this tumor there was a large fluctuating tumor in the right lobe of the liver and an inch and a half or two inches from the smaller tumor. An incision was made in the larger tumor, and a clear, yellowish-green fluid poured out. The cyst seemed to hold about a quart of fluid. The finger was passed into the incision, and by means of several mattress sutures, passing from the outside of the liver to the inside of the tumor, a triangular piece of liver substance, containing the smaller tumor, was ligated off with catgut, and a segment of liver, three and a half inches or more on each triangular side, was removed. There was very little hemorrhage from the surface of the liver; the interior of the cyst was carefully sponged out; the whole cyst cavity and the denuded surfaces of the liver were covered with an iodoform gauze tampon, which was brought out of the upper corner of the wound, and after exploring the gall bladder and common duct the pancreas and the pylorus, the remainder of the abdominal wound was closed. The skin suture was complete at 12:20, and the operation lasted an hour and five minutes after the first incision was made.

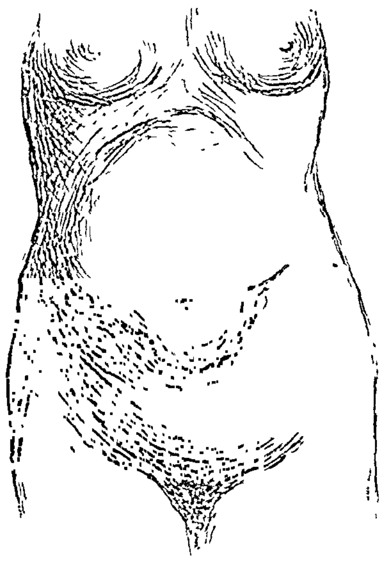

Fig. 5.—Sketch of abdomen showing the general configuration and outline of tumor.

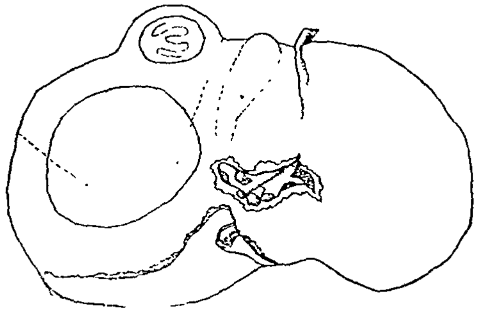

Fig. 6.—Diagram of section of liver showing lines of incision for removal of cysts.

Immediately after the operation the tumor was carefully examined, and the sketch (Fig. 6) of the relation of the tumor, the cyst and the gall bladder was made.

*Examination of the Cyst.*—The material removed from the cyst and the tumor were placed in the hands of Dr. H. Gideon Wells for examination, who made the following report: "The specific gravity of the fluid taken from the large cyst was not recorded. It was golden brown, slightly opaque and rich in bile pigment and albumin. It contained considerable detritus, a few red blood cells, a moderate amount of cholesterin crystals, but no echinococcus hooklets and no sugar.

"The wall of the large cyst when examined from within outward consisted of three layers. The first layer was old fibrous tissue, partially hyaline and partially degenerated, poor in nuclei, devoid of leucocytes, almost avascular and without a lining epithelium over its surface. The second layer consisted of a broad, richly vascular zone, consisting of a network of widely dilated capillaries with a few or no arterioles. The capillaries were separated by a homogeneous material, which for the most part was not nucleated. The character and distribution of the capillaries suggested that they were the original capillaries of the lobules of the liver. The intervening tissue had the disposition of liver cell cords. It is probable that either the liver cells themselves had undergone hyaline degeneration, or they had been substituted by connective tissue, which later suffered the same change. A few groups of well preserved liver cells and bile ducts occurred in this zone. The third layer consisted of a promiscuous mass of fibrous tissue, liver cells, bile ducts, and the vessels normal to the liver, but without lobular structure. Liver cells occurred in small groups and small cords. A good deal of young connective tissue, granulation tissue and bile ducts surrounded by concentric layers of connective tissue filled up the picture.

"The small cyst consisted of thick, lamellated and corrugated sheets of hyaline substance having the consistency of cartilage. Between the folds of these sheets was a white, amorphous, pulpy substance, which consisted principally of fat, calcium salts, cholesterin crystals and detritus. The cartilage-like substance did not give any albumin or sugar reaction. Microscopically the thick sheets appeared hyaline and lamellated. The capsule was thick, composed of adult fibrous tissue and surrounded by liver substance containing much increased amount of fibrous tissue. No hooklets were found in the cyst.

"In the liver tissue surrounding the cysts there was a great production of interlobular tissue, with much granulation tissue. The lobules were atrophied almost to one-half their normal extent. There was no pronounced growth of fibrous tissue within the limits of the lobules themselves. The bile ducts were surrounded by concentric layers of fibrous tissue. There was active congestion of the liver, with increase in the number of bile ducts, but no fatty degeneration or infiltration. The diagnosis was echinococcus cysts, with early surrounding cirrhosis of the liver."

*Postoperative History.*—After the patient was removed to her room she reacted promptly, and had the most trifling disturbance from the anesthetic and the most insignificant shock from the operation. Her temperature never rose above the most trifling reaction; she never had any albumin in the urine, and the quantity of urine rapidly increased. The bowels moved without disturbance, and the jaundice disappeared. The thick, loggy, old-aged look which she had before the operation, and the jaundice which was so evident in the scleræ and skin, quickly disappeared, and she took on a youthful rosy, healthy look, which caused everyone to exclaim. She had a moment's chloroform anesthesia when the deepest portion of the tampon was removed on the seventh day, but otherwise she was dressed without pain or discomfort, and the cavity closed and the wound healed in a remarkably short time. No urticaria followed the operation.

Since leaving the hospital on the last of January she has been active and in buoyant spirits. Her health and complexion were perfect in June, 1903, when last seen by me, and she has absolutely no evidence or hint of a return of the disease. She has menstruated regularly since the first week of March. In June, 1903, her waist measured 23½ inches and she weighed 122 pounds.

### TREATMENT: PROPHYLACTIC AND SURGICAL.

The treatment of echinococcus cyst is a matter of little immediate importance to the American physician. All association with dogs, however, especially with imported dogs, should be looked on as not unattended by dangers. The presence of dogs in and about truck farms and gardens, about grocery stores and kitchens must be looked on as dangerous and filthy. America can hardly hope or expect to remain free from the echinococcus for any great length of time, and when the disease is once discovered it should be promptly reported and the source of the disease should be sought for.

Medical treatment is absolutely useless. The only surgical treatment is laparotomy, the opening and the evacuation of the cyst, and probably tamponade and drainage; but these details are matters which must be left entirely to the surgeon. No exploratory puncture, no tapping and washing out of the cyst, can be looked on with complacency.

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# THE PROPHYLAXIS OF PLAGUE.

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*(Concluded from page 147.)*

### MARITIME COMMERCE IN ITS RELATION TO THE SPREAD OF PLAGUE.

Plague, like cholera, follows in the wake of commerce. For a long time many features connected with the transmission of plague by vessels were not understood. While it was easy to discern the relation existing between a vessel having cases of plague on board and others contracted from these on land, we were often at a loss to discover the origin of outbreaks occurring at seaports which could not be ascribed to vessels or their personnel. The various theories in vogue from time to time were a natural sequence. The careful observations of the past few years have been of greatest value in determining just what part the vessel, cargo and personnel play in the transmission of plague. Is it possible for the personnel of a vessel to bring the infection aboard, either in their persons or in their effects? Only a few instances have been cited where the personal effects of the personnel have been responsible for plague appearing on shipboard. Ruffer believes that a few cases are traceable to this cause. The dirty, filthy rags of the Indian pilgrim coming from Bombay and Calcutta were thought to be responsible for the outbreaks on shipboard, yet these were few and could not be traced directly to these as the cause *per se*. Kitasato mentions a box of clothing of a soldier who died of plague in Formosa sent to Kobe, and soon after opening it plague attacked some of those who had handled these articles.

It would perhaps further our understanding of this feature if a few details were indulged in which relate to one of the chief sources of infection to this country. Vessels in Hong Kong harbor, as a rule, lie at anchor some distance from shore, communication being held by steam launches, the native sampan and cargo boat. Very few of the trans-Pacific vessels ever touch at a dock. Nearly all these carry a full complement of Chinese for their crews. These are shipped in Hong Kong for the round trip and are changed on each return voyage. Only a few of the crew come from Hong Kong, the greater proportion being drawn from Canton and its immediate vicinity. As soon as a vessel arrives in Hong Kong a crew is discharged, the members return to their homes, and if any of these reship they return only a day or so before the vessel sails. These, together with the new members, constitute a fresh crew.

Early in 1899 cases of plague began to appear in several of these vessels, usually from three to five days after leaving Hong Kong. These were apprehended at the Japanese quarantines. The short time elapsing between the time of departure and the appearance of the cases pointed strongly to the fact that these were either pestis minor or pestis major in the incubative stage, and presumably the latter, as all attacked died. The possibility of the infection being brought on shipboard in their personal effects can not altogether be excluded, yet the weight of evidence leans further to the side of the person being the factor, rather than the effects.

While serving as quarantine officer at the port of San Francisco I soon became convinced that there was great danger from this source, and in response to persistent and urgent appeals, the surgeon-general finally detailed officers of the Marine-Hospital Service for duty at Hong Kong to make the inspections and to exercise a sanitary surveillance over all vessels destined for the United States. Since this inspection has been established, the effects of the crew and steerage passengers being disinfected, no case of plague has occurred on any of these vessels. Many cases of incipient fever, etc., have been excluded, and some of these have died soon after with plague. This would seem to indicate that the cases which had heretofore occurred on these same vessels were in reality suffering from plague on departure.

The Canadian vessels, for purposes and reasons best known to the officers of that company, have adopted a policy of inspection only, claiming in so doing that the restrictions imposed by the United States were worse than useless; that their system of inspection without disinfection was far better or "just as good." It almost seemed so until a case of plague was detected on the vessel's arrival at Nagasaki. Possibly this case was due to infection from some article taken on board, but it is also more than probable that on account of the short time elapsing before the appearance of disease (4½ days) that the personal inspection was at fault—a case of plague in the incubative stage was allowed to go on board.

The sanitary history of these vessels is quite instructive. Seven vessels had plague on board en route from Hong Kong to San Francisco; in only two did secondary cases occur. In five vessels cases occurred soon after leaving Hong Kong; in one of the two about 10 days after leaving port, in the other over 14 days. From a careful inquiry it seems to establish the fact that these cases occurring as soon as four days from port were in the incubative stage, whereas those developing after 10 to 14 days contracted the infection through some agency on shipboard.

### CARGO.

Since the days of the Levantine Lazaretto, the cargoes of vessels have been regarded with suspicion, and a belief held that such were capable of transmitting contagion. Certain articles of cargo are no doubt the means of preserving and transmitting the contagion of certain diseases, and are also capable of being infected, particularly so on shipboard. It has never been accurately determined how plague reached Bombay from Hong Hong. All the evidence points to an infected vessel. Certainly if a vessel can come from Bombay to Yokohama with plague-infected rats on board, or a vessel from Bombay arriving at Kelung, Formosa, with a case of plague, we would reason that it would be equally possible for infection to reach Bombay from Hong Kong.

From all information obtained, the cargo is not believed to be the principal means of its dissemination of plague. The cargo in most instances is free of infection at the time of placing on board, yet it may be infectible by agencies on board. There is a suspicion that certain food products from China may, either through their mode of preparation or storage, become infected with the plague bacillus, but these instances are rare. Cargoes of grain, particularly rice and of forage, may become infected by the same agencies. It is more than a probability that the disease was carried to Oporto, South Africa, New Caledonia and Calcutta in such cargoes. Kitasato's researches also appear to establish the fact that infected cotton shipped from Bombay to Osaka was the means of introducing plague in the latter place.

We can not, however, rest the case on the cargo alone as being the means of conveying plague, and must not be unmindful of the close relationship existing between the rodent and plague on land. The same will also apply to vessels. While certain classes of food products and other kinds of cargo may be infected with plague, I think all will agree that it is of minor consideration as compared to the dangers arising from plague infected rats on shipboard. These may become infected either by persons or their effects, or from infected cargo. On the other hand, they may become the means of infecting cargo. The steamship *Friary* arrived at Hull, England, about 80 days out from Montevideo. Two cases of fatal illness occurred en route and soon after departure; all were well on arrival. A few days after cargo was broken and begun to be discharged by the crew, when soon thereafter two became ill with symptoms of influenza, and were sent to the hospital. One of these died shortly after. About this time several mummified rats were discovered among the cargo. This, taken together with several other cases, led to a more careful examination, which demonstrated the cases were not influenza, but plague. The inquiry further developed that all the cases of plague had come from direct contact with the dead rats.

Another steamer arrived at Hamburg from Rosario, Brazil, where plague was prevailing. All were well during the voyage and on arrival. The quarantine inspection revealed several dead and sick rats. These were examined and found infected with plague. Another instance was an infection of the personnel by rats in the case of the steamship *Coptic*, which sailed from San Francisco for Asiatic ports in August, 1900, and 21 days later, just before arriving at Yokohama, a case of plague developed in a passenger. On clearing out the compartment two dead plague rats were found. Another steamship plying between the United States and Asiatic ports demonstrates the fact of rat infection perhaps in a more remarkable manner than any of the former.

A vessel left San Francisco early in the spring of 1901 for Asiatic ports, making the round trip in about four months; the vessel did not touch at any wharf, but discharged passengers and cargo well out in the stream. On her return voyage, a few days out from Honolulu, two deaths occurred between Honolulu and her home port. There being no physician aboard, nothing more definite than the master's statement could be obtained, but all pointed to plague. On discharge of the cargo no dead rats were found, and no information could be obtained regarding them from any member of the crew until finally the Chinese quartermaster admitted that dead rats were being found continually when the vessel lay alongside the dock in San Francisco, and were observed on several occasions on the outward voyage. Here was an instance where rats were dying as long as three months before any case occurred among the crew, notwithstanding these must have been in close proximity to the personnel. Other instances of the same character could be cited if it were deemed necessary.

I can not, therefore, bring myself to agree with the opinion of the British Plague Commission when it says: "There is no evidence that plague-infected rats have ever carried plague from one country to another, and that fumigation of holds of ships, in order to kill rats, is unnecessary and impracticable," or that there "is no confirmation of the suggestion that plague may be conveyed on board by embarkation of plague-infected rats."

It is indeed a fortunate circumstance that few of the vessels engaged in the trans-Pacific trade touch at any wharf in the Orient, and that passengers and cargo reach the vessels by boat. If it were otherwise it would be next to impossible to prevent these vessels from being infected on nearly every voyage.

Notwithstanding the present arrangement, the dissemination of plague has been very closely connected with some of these, and this is due more to their being infected with rats than to any other cause. Few rats, if any, get aboard these at Hong Kong, or at any other port, still these vessels contain numerous rats. It has been the custom since medical inspectors have been on duty at the Oriental ports to destroy the rats on board just after discharge of cargo by fumigation, but on the next voyage about the same number are on board. The question naturally arises, from whence do these rats come? The answer to this was the same from all, "American ports, principally San Francisco." The vessel is, therefore, subjected to a double danger from (*a*) cargo possibly infected, (*b*) and from infected rats.

With regard to the possibility of vessels becoming infected with rats at San Francisco, I may add my personal observations to that of the officers of vessels, whose answer to the query is quoted in the above. The wharves and water front are infested with rats in great numbers. The wharves are, as a rule, old, and of such construction as to be ideal vermin harbors.

These are some of the reasons explanatory of the way in which plague may be carried from place to place by means of vessels. A rat infection may exist comparatively for a long time before it is manifest, but just the same as on land. Places may become infected one after another by such vessels, and the circumstances attending its sanitary history be forgotten before the place awakes to the realization that it has plague.

### MARITIME QUARANTINE.

On arrival of a vessel from an infected port great care should be exercised in making the examination, and a diligent inquiry should be instituted regarding all that is essential in determining the sanitary condition of the personnel, cargo and vessel. The sanitary authorities should be given wide latitude in their determination of the fitness or unfitness of a vessel to be passed or to be held for treatment. The regulations for their guidance should be laid down on the broad principles of preventive medicine and not "line on line and precept on precept" of laboratory technic and unimportant details.

A few good rules are excellent, but rules enacted into law are still better, for regulations are not laws and can not have the force of law. The sanitary authorities should be experienced men, well qualified, and, above all, resourceful and possessing executive ability, and, moreover, endowed with a liberal amount of common sense. If these precepts are regarded, I feel sure that many of the hardships, both to commerce and the personnel of vessels, would be, in a great measure, removed, and the health interests of our country be better conserved.

In general, the same rules of procedure as suggested for cases on land are applicable for the treatment of a vessel, its cargo and personnel: The diagnosis, treatment of cases, surveillance of the contacts and the suspects, each with its appropriate treatment, and lastly, the disinfection of the vessel and cargo with the destruction of vermin.

The maritime quarantine stations at our larger ports are now equipped with all the requisite apparatus and conveniences for the treatment of such vessels with effectiveness and dispatch. A description of such stations will be unnecessary. One of the greatest safeguards to this country in preventing the introduction of plague is the present policy of the national government in detailing officers of the Public Health and Marine-Hospital Service for duty in the office of the consulates in the several Oriental ports. No one thing has been of greater protection than this, as it has prevented plague from being brought on board, and, moreover, practically relieved commerce of many of the vexatious restrictions which were necessary to impose before this was done.

With regard to the utility of the detailing of medical officers of the government in European ports, it is a question whether any great benefit would be derived from it. The conditions under which a sanitary supervision of vessels and their personnel would be maintained, would amount to but little. As a public health measure, it has practically not been appreciated by the trans-Atlantic traffic, and what little has been allowed to be done rests more on the fear of a quarantine on this side rather than being one of co-operation to prevent infectious diseases being brought to this country.

### MEASURES TO BE ENFORCED IN A PLACE INFECTED WITH PLAGUE.

As before stated, the prompt recognition of the first cases is most essential. A single case, for example, coming from a vessel or another place on land, if promptly recognized, would give us but little concern. But such instances are rare. It is usually not recognized, and one is not apprised of the fact until weeks, or perhaps months, afterward.

Plague is believed to have been introduced into Hong Kong from Canton at least eight or nine months before the cases were of sufficient number to attract attention by the increased mortality from "fever." Therefore, when plague is recognized as plague the initial focus usually has been lost. Further, it may, and perhaps is, in the majority of instances, introduced by rats, rather than by persons and their effects. This was true of the first and second epidemics in the Hawaiian Islands. Rats were observed to be dying in and around the wharves many weeks before the first cases appeared among the Chinese and native population. The last epidemic was directly traced to infected rats.

All rat plagues are not followed in direct sequence by human cases. These may exist for a long time and not be infective. On the other hand, they may occur just slightly before or be synchronously with the plague in man. Davis says: "Plague, when it is introduced by persons, may be readily exterminated; when introduced by rats, followed by the infection of shore rats, it has come to stay."

During the first great outbreak in Hong Kong, in 1895, rats were found dead in many of the houses occupied by the European population; yet but few of these houses became infected. In contrast with this, in 1901 the majority of the Europeans affected with plague was evidently due to infected rats, as these were found in nearly every instance. Nearly as late as 1900 the medical officer of health says: "It is also interesting to record that, although over 400 Chinese coolies have been employed regularly in scavengering and cleansing the city and in the disinfection of infected premises, and that practically the whole of the 42,000 dead rats must have been handled by these men, yet only three cases of bubonic fever are known to have occurred among them during the year." "In 1901," he says, "there were about thirty men who made a business of collecting these rats. and I find that no less than seven of them died of bubonic fever during the period under report, while five others left the colony because they were sick, and two of these later are said to have died of this disease on the mainland."

In Kobe plague first made its appearance along the water front just close by the place where the cargo junks were moored. The first recorded case, however. was not among those who lived on the boats, or, from what could be learned, had anything to do with the loading or unloading of vessels. It may have reached the shore through the agency of these junks, but, what is more probable, by a wharf at which vessels arriving from Kelung, Formosa, Hong Kong and Bombay discharged their cargoes. As soon as plague was recognized the work of its eradication was placed in the hands of Professor Kitasato, to whom all praise should be given for his great and noteworthy achievement in freeing Japan from plague.

Japan has so far been the only country which has successfully eradicated plague within a short time. The system adopted by the local and imperial authorities, while in some respects a rigorous one, has demonstrated that it is the only kind which is efficient. As Dr. Thompson has remarked: "There is no royal road to the prevention of plague." It means work, and hard work at that. Although much information has already been given in the published reports of the plague epidemics of Kobe and Osaka, there are many features and details of these which have not been set forth as clearly as they should be, and, therefore, are deemed of sufficient importance to describe some of these more fully. with the hope that a better understanding of the subject of plague prevention and eradication in Japan may be of service in our country, particularly in dealing with populations and conditions which may be similar.

In 1899 cases of plague were discovered among the population of Kobe which lived along the water front and contiguous to that part of the bay used by the cargo junks. Soon after the announcement of the discovery of the first cases, the imperial government sent a commission of experts headed by Professor Kitasato, which was empowered to co-operate with the local health authorities, and to take such action and adopt such measures as were deemed necessary to eradicate the disease. Immediately on assuming charge, an inspecting corps of thirty-six physicians was organized to make a thorough inspection of the city. Volunteers were called for, and as many as 380 physicians were selected and appointed for this work. These were divided into the following classes:

1. Inspectors for districts, whose duties were to see all cases of illness, it mattered not what the nature might be, to view and obtain the history of all those dead and report the same to the district superintendent.
2. A corps of inspectors for performing autopsies and making bacteriologic examinations of all persons dead suspected of plague.
3. A corps of inspectors whose sole duties were to make bacteriologic examinations of rats.
4. A corps of physicians to administer the anti-plague serum and Haffkine-Shiga prophylactic.
5. A hospital and ambulance corps to look after those sick with plague and those detained in quarantine.
6. A disinfecting corps, organized much in the same manner as a volunteer fire department.
7. A corps of rat inspectors detailed from the police force.

The plague made considerable progress in Kobe before the authorities were able to cope with it. It was decided from the first that all houses in which plague had occurred, or those contiguous thereto, should be destroyed, but the authorities were immediately confronted with a law which prevented the destruction of buildings by fire. It took some few weeks before this law could be modified, and so valuable time was lost. However, as soon as the law became operative, the occupants, with their contents, were removed under sanitary conditions, the houses razed to the ground, carried out by piecemeal and burned. In view of the success which the Honolulu authorities had in the dealing with plague, it was believed that this drastic measure would be all that would be required for the control of the disease. This, however, did not suffice. It is believed the reason why it failed was simply because of the interval between the time that plague was first discovered and the law went into effect authorizing the destruction of buildings.

Soon thereafter plague appeared in the central parts of Kobe and the adjacent municipality of Hiogo. Many of the houses in which plague had occurred were disinfected and allowed to remain closed for ten days before the occupants were allowed to return. In several of these houses plague again broke out. Professor Kitasato was at a loss to explain just what was the reason, because a most thorough surface disinfection had been made of the houses and surroundings. When these cases occurred another sanitary inspection was made and several dead rats were found in the walls and over the ceilings of the houses. These rats were in various stages of decomposition, some evidently having been dead for several weeks. A bacteriologic examination was made of all these, and in a few only the plague bacillus was isolated. A vigorous crusade was then commenced against the rat. In fact, it was contemplated to destroy all the rats in these two cities, and a premium of 5 sen (2½ cents) was offered for every rat brought to the police department, either dead or alive. Arrangements were made that those bringing rats should report to the nearest police station, where a full history of each rat was obtained. This plan was not successful—only a few rats were brought by the population, or caught by those specially designated for this duty. The superintendent of police of Kobe hit on a plan which was one of the most successful features of the anti-rat campaign.

It appears that several years ago the government interdicted gambling in all its forms in Japan. Now it is a well-established fact that wherever you find the Tartar blood you will find also an inherent desire to play at games of chance. For all these years the Japanese nation had been interdicted from gambling, and they were practically in a state of hunger for hazard; so the superintendent of police suggested that in view of the fact that as the people were desirous to play at games of chance, in addition to the price of 5 sen offered for each rat, the lottery feature would be added, and a cash prize would be awarded at stated intervals. Each person who would bring in ten rats was entitled to a lottery ticket and the prizes offered were: 100 yen, first prize; 50 yen, second prize; 20 yen, third prize; 10 yen, fourth prize; 5 yen, fifth prize; 1 yen, sixth prize.

As soon as this feature was announced, the number of rats brought in immediately arose from 1,000 per day to between 5,000 and 6,000 per day. So fashionable had rat catching become that people from the surrounding towns brought dead rats as a visitory offering to their friends in the city.

You can well imagine that the bacteriologists who examined rats were kept hard at work to examine from 5,000 to 6,000 rats per day. The number of rats that one physician could examine, a report was made, was not more than 200. This rat crusade developed some very interesting features. One was that in Kobe and Hiogo there was an intimate association between the rat cases and the human cases. Many times, however, the rat infection was not followed by human cases, and a few human cases were found in which there could be no connection traced between these and pest rats.

A short time after the epidemic of Kobe, plague appeared in Osaka. Osaka is the great manufacturing city of Japan, having a population of about 1,000,000. It is located about eighteen miles from Kobe, and is easy of access either by land or sea. In the city of Osaka, by reason of its location, the conditions were quite different from those in Kobe. The latter is a small, compact city, situated in a narrow strip of land on the sea, surrounded on three sides by hills; it is well drained and has a good water supply. Osaka, on the contrary, is spread over a large flat plain, intersected in every direction by canals. The intercommunication being very largely by water, the population was an ideal one in which an epidemic disease like plague would spread. Plague broke out among some of the workers of the large spinning mills, and it is believed now that some of the infection can be traced to plague-infected cotton brought from Bombay. However, be that as it may, the authorities immediately saw that they had a very much more difficult proposition than that of Kobe. In the first place, the commercial and manufacturing elements protested strenuously against any such drastic measures which were enforced in Kobe, and so great was their influence that there was, for the time being, a modification of the measures which had proven so successful in Kobe, and they were suspended and the former status re-established. The rat examination, however, went on as usual, and it was not long before pest rats were found in several parts of the city, and at places quite distant from the place where the first cases were discovered. Again sanitary measures were enforced, but soon brought to a standstill by the commercial influences. It was not until three separate and distinct outbreaks had occurred that the sanitary authorities were given a free hand. It was not long after this that the last case of human plague occurred, and the city has since been free of plague.

Some features of the campaign against the rat are not without interest. During the time of the cases there were, on an average, 5,000 rats delivered daily to the various police precincts. The number in 1901 was about 2,000 per day. From Nov. 20, 1899, to Aug. 23, 1901, there had been examined 565,589 rats, and of these only 158 were infected with plague. The last plague rat was found on June 21, 1901, one year and five months after the last case in man. There were 69,718 rats examined in Kobe and Hiogo between May 1 and Aug. 23, 1901, and two infected rats found—the first was discovered in March, the last on June 11, 1901. The last plague case was Dec. 21, 1901.

The long time elapsing between the last plague case in man and in the rat is quite suggestive and seems to offer an explanation of the recrudescence of plague from time to time in which the source of infection is unaccountable. Further, it emphasizes the fact that our measures against rat infection should be continuous, and for an almost indefinite time. In September, 1901, in conjunction with Dr. Bell of the Civil Hospital at Hong Kong, I made a bacteriologic examination of 251 dead rats which were collected by the scavenger force from all parts of that city. Without reference to locality where found, thirteen of these were dead from plague. Dr. Bell continued the examination of 100 each in October, November and December. He found for October 2 per cent., November 1 per cent., and for December none of the rats was infected. He says: "It is interesting to note that the subsidence of plague against human beings corresponds to that among rats. These examinations, while few, seem to establish the fact that one of the means, and what is believed to be the chief agency to not only disseminating plague but keeping it alive, is the rat. Certainly there was an intimate connection shown to exist between the rat infection and the cases of plague occurring among the better class of whites, who were living a considerable distance from the Chinese part of the city.

Whether the size or age of the rat has anything to do with the dissemination of plague, or whether it influences its virulence, can not be said. Of the number examined by us 124 were full grown, and of these 10 were infected; 63 were half-grown, and of these 3 infected. No young rats and mice were found infected.

We have already mentioned the fact that the temperature may have a direct influence in arresting plague, for it is a well-established fact that whenever the temperature reaches 81 to 83 F., and continues for some weeks, the plague mortality steadily diminishes. I have suggested that possibly the rat may be influenced in some way by the high temperature, maybe in a resting stage, and without inclination to migrate as at other seasons, and thereby may be less exposed to the infection and less liable to disseminate it.

Manila has now experienced two epidemics of plague since the American occupation. This focus of infection is almost of as much import to the States as the Chinese and Japanese ports. In October, 1901, soon after my arrival, the sanitary authorities began a systematic campaign against plague, and particularly with reference to the destruction of vermin. All rats caught, killed or found dead were examined. The anti-rat campaign developed the same results there as it had done in Kobe and Osaka. Plague cases became fewer, even at the season when there had heretofore been the greatest number of cases. Unfortunately, just when it seemed that a full control had been attained, cholera made its appearance, and the anti-plague measures practically ceased. Plague then began to increase.

There is yet a diversity of opinion concerning the rôle played by suctorial insects in the transmission of plague from rat to rat, and from rat to man. Simond's contention appears to be established by Thompson in the epidemic of Sydney, but so far this is the only instance where observations of this character have been confirmatory. Laboratory experiments made in this country and in Europe appear to establish the fact that fleas from an infected rat are capable of transferring the pest bacillus to healthy rats. Terni claims that the *Pulex fasciatus* infests both rat and cat, which sometimes infests man, while Gautheir and Raybaud's experiments show that plague can be transmitted from rat to rat by the *Pulex fasciatus,* and by a smaller species resembling the *Pulex irritans,* also that the ascarides sometimes infesting rats can also transfer the bacillus from sick to healthy rats.

In eight experiments made with fleas which infest man, by placing these on rats they were able to transmit plague from rat to rat, all of them were successful. Tidswell's observations[1] rather confirm Simond's contention. He says: "It does not follow that fleas harbored by the rats in two widely different places would be exclusively the same species. With a view of determining this, a collection of fleas was made from rats coming under observation. Of 100 fleas 10 were *Pulex fasciatus,* 8 were *Typhlopsylla musculi,* 1 was *Pulex serraticeps,* and 81 were *Pulex pallidus. Pulex pallidus* has not been heretofore mentioned. This species, as well as *Pulex fasciatus,* bit men; the others did not." In view of the fact that our observations are not as yet either sufficiently numerous or accurate, it would be as well to include the destruction of all insect life in our measures against plague until it is conclusively proven that these have no bearing on its dissemination.

Now with regard to the prophylactic injections for plague, it has, as is well known, been extensively employed in India and has passed the experimental stages. The epidemic of plague in Kobe and Osaka demonstrated that it was of greatest value in preventing its spread. Statistics are tiresome, but are, notwithstanding, sometimes necessary. The number inoculated from Dec. 12, 1899, to Aug. 22, 1901, was 110,115 in Osaka, and 30,000 in Kobe.

While the prophylactic injections were not made obligatory, many persons availed themselves of them, especially those who had been in contact with plague cases or where plague rats were found on or near their domiciles, and those whose avocations would be more likely to be exposed to the infection. The police and rat collectors were all inoculated—several hundred—and none of these contracted plague. One physician died of pneumonic plague—he was not inoculated. This is quite in contrast to the rat coolies of Hong Kong, where many died of plague. The Yersin anti-pest serum was administered to all those who were in direct contact with cases, and in not a few instances to those who had come in contact with pest rats. In none of these did plague occur. From last accounts from Japan, the campaign of the sanitary surveillance still goes on, and it is the intention to maintain this so long as there is danger of plague being a menace to that country.

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[1] This observation appeared after presentation of paper, Jour. Trop. Med., July 15, 1903.

The measures to be enforced in a port infected with plague must of necessity be modified in their details, according to the exigencies of the case. No better plan has been devised than has been adopted by the Japanese and Australian authorities in the management of their plague epidemics, which may be summarized as follows:

1. Detection of cases and of rats infected.
2. Provisions for the care and treatment of those sick.
3. Isolation and surveillance of contacts and suspects.
4. A general inspection, personal and domiciliary, of the place by a sufficient number of trained experts.
5. A general destruction and examination of vermin for plague.
6. The offer of prophylactic inoculations and immunization to all persons liable to be, or have been, exposed to plague.
7. Disinfection of personal effects and of domiciles presumably infected or liable to become infected by vermin.
8. Preventing persons exposed to plague leaving an infected place until free from infection.
9. A sanitary surveillance over the common carriers.
10. A coöperation between the sanitary authorities, national, state and municipal.
11. Publicity.

"Plague is regarded by nearly every citizen as a possibility elsewhere, but not in his own particular city. The same note of resentment is struck in nearly every place where it has appeared. In Oporto, Bombay, Alexandria, Osaka and San Francisco the same old story is repeated. The commercial interests resent the imputation, and those who have announced the unwelcome news have been regarded as public defamers of the city in which they live."[2]

There are a few notable examples now on record which stand out in vivid contrast to the above, as is instanced by the action of the sanitary authorities of Japan, Sydney, Hong Kong, Glasgow and Mexico. Not only the simple announcement was made to the world, the regrettable fact of the appearance of plague in their city or country, but also that they were doing all that could be done to eradicate it. Whether success speedily crown their efforts or not did not rob them of the commendation, the assurance of coöperation or of the confidence and esteem of all countries.

It was indeed a lamentable fact that some of our citizens could not have seen their way clear to have been honest and upright, and to have adopted a proper course of action on dealing with plague soon after its discovery in San Francisco, instead of inviting disaster not only to themselves, but to the whole country, in their short-sighted policy of denial and suppression of the truth. We are confident that if the same amount of energy had been directed toward the eradication of plague as was displayed in attempts to obstruct and hamper the sanitary authorities, and in means of suppressing information, plague in the United States would have long since ceased to be a menace, and also there would not have been entailed the crime of sacrificing human lives for no other reason than to conserve and promote their commercial and political prestige.

It was a most humiliating spectacle! Misrepresentation, duplicity, fraud and suppression of truth were the watchwords emblazoned on their banners. The sanitary authorities of nation, state and city were opposed in everything they attempted to do. Attempts were made to suppress information, even reports sanctioned and made mandatory by the highest laws of our land, and in more than one instance their campaign was successful. There arose at one time what appeared to be the turning point in this tide of civic corruption, when reason and common sense would replace the foolish ostrich-like policy of the past, whereby the sanitary authorities would be allowed to discharge their duties without further hindrance. But the representations made by these obstructionists were so plausible (?), their promises and agreements really having the smack of sincerity, that a few were so blinded by their glamour that they fell an easy prey, and, like Samson of old, blinded and manacled were led forth captive to furnish sport to be mocked and jibed by these modern Philistines. The simile here ends. The house still stood. But plague, like Banquo's ghost, would not down. It held the even tenor of its way, gradually extending its territory, despite the plan of campaign, and could not be exorcised either by executive bulls or judicial opinions, even when loudly proclaimed by a venal press.

It is believed that from the very first the now Public Health and Marine-Hospital Service had no other desire than to do all that was possible to eradicate plague from California, and, while mistakes have been made in directing its policy, no one will doubt its sincerity in sanitary work. But this service, like those of the state and city, was also incapable of escaping the clutches of the great organized combination of commercial and political interests; consequently its efforts came to naught. Probably more would have been accomplished in the beginning had it not undertaken too much and had been more mindful of the statutory and constitutional limitations between state and nation.

The same story was repeated over and over again, and no progress whatsoever was made in the eradication of plague. It was, so far as the combination was concerned, an endless chain of falsification, duplicity and sordid self-interest—a travesty on civic decency—a monumental disgrace. Just how long this condition of affairs was to continue, despite the protests of honest people, none could foresee. It appeared to resolve itself in awaiting a time when those of San Francisco and California could by some yet undiscovered means or new procedures be brought up out of the mire, and be made to see the error of their ways, and be compelled to do something to eradicate the plague spot from their midst before it still further menaced the whole country. It did appear questionable whether anything would be permitted, until a sufficient number of cases had occurred to cause a panic and commercial disaster. Perhaps then they could be awakened from their self-satisfying dreams, would arise, clean their city, make the Chinese put their houses in order and keep them clean, or go.

The sanitary authorities of San Francisco and some of the state deserve the lasting gratitude of the nation. Too much praise can not be given to those who have constantly and fearlessly discharged their duties, despite the almost insuperable obstacles thrown in their way. The recently enacted law reorganizing the Marine-Hospital Service into a Public Health Service contained, among other things, a provision for a conference between its chief and the state health officials, to be held on the demand of five or more states or territories. Some of the health authorities, together with the writer, believed that steps should be immediately taken looking to a concerted action of the state and national authorities whereby plague could be eradicated.

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[2] British Med. Jour. Editorial.

The preliminary steps to this end were taken by the Conference of State and Provincial Boards of Heath at its annual meeting at New Haven in October, 1902. The resolutions unanimously passed by that body were of such character that a conference between the surgeon-general of the Public Health Service and the several states was a natural sequence. This conference was held in Washington early in January, 1903, and resolutions passed by this body reiterated those passed at New Haven, and further spoke in terms of no mistaken meaning to those who had persistently balked every well-meant effort to clean San Francisco's Chinatown of plague, that the time had come when they must cease "to quit their meanness," tell the truth and be good.

All these things they are doing or have promised to do—the very things which were suggested to them in 1900. Now the city board of health is not being interfered with. The state authorities, together with the United States Public Health and Marine-Hospital Service, are aiding it, and a hearty co-operation established between all, each doing its allotted part.

It does seem as if this is the beginning of the end, and that after conscientious and persistent effort that the danger of a further extension of plague will be dissipated, and that soon the painful memories of the past two years be sunk into oblivion. Let us hope that the era of good feeling, plain dealing, honesty of purpose, and above all, good citizenship, may have come, and be established among those who have heretofore been guiding the destinies of a great state.

## DISCUSSION

### ON THE PAPERS OF DRS. CALVERT AND KINYOUN.

**Dr. F. G. Novy**, Ann Arbor, Mich.—The history of plague, to my mind, forms one of the most interesting chapters in the history of epidemics. Nine years ago the telegraph reported the existence of plague in China, and when the news reached Europe there were very few physicians who had the slightest idea as to what the plague was. At all events, it was extending, passing through and beyond the chief empires of the Orient; in time it reached South America, North America, Africa, etc. At the outset France and Japan sent commissions to investigate the disease. These commissions were headed by Yersin and by Kitasato, respectively, and they worked independently and at the same time in Hong Kong. The announcement was soon made that they had both discovered the plague bacillus. As a matter of fact, to Yersin, and not to Kitasato, belongs the credit of this discovery.

In plague we have a well-defined disease, caused by a well-defined organism; this organism can be seen easily under the microscope and can be easily found in every case brought to the postmortem table; and, moreover, it can be cultivated without difficulty. Experiments can be made on animals and the relation of the germ to the disease can be demonstrated to anyone.

The question naturally comes up: "How does it get into the body?" There is one point which I should like to emphasize, and that is, that plague is essentially an animal disease and is primarily not a human disease. It affects by preference animals, rats or other rodents in China, and these animals introduce the disease into the human subject. How? The flea is commonly held responsible for such transmission, which, however, is by no means absolutely proven. To my mind, other insects may take a part in and other means exist for its conveyance. The usual mode of entry is presumably through an inoculation wound, but it is exceedingly difficult to indicate just where the bacillus enters the body.

As to the germ, we may say that its virulence decreases when it is kept in ordinary culture. The organism is not so very resistant and is readily destroyed by various injurious conditions and substances. Several types of the disease are met with according to the manner of entrance of the germ. The most common type, where the lymphatic glands are enlarged, the so-called bubonic form of plague, probably results as I have indicated, by inoculation through wounds. The pneumonic type follows the entrance of the germ along the respiratory passages. A third or septicemic variety is at times met with. The mode of entrance, the virulence of the germ and the resistance of the individual are determining factors in the production of a given type of the disease.

I wish, though, to especially emphasize the prevention of plague by vaccination methods. In addition to these means we have, of course, methods of disinfection, the isolation of the sick, the segregation of those exposed; all of which are powerful means for controlling the disease. There are two methods of vaccinating against this disease: First is Haffkine's vaccine, which is prepared by growing the plague germ in beef tea. When such cultures are fully developed the germs are killed by exposure to heat, and the material thus obtained is ready for injection into the human subject. The immunity thus acquired by the individual is fairly lasting. A second method of vaccination consists in the use of Yersin's serum. This, when injected into the human subject, has a curative as well as an immunizing action. It is prepared by injecting plague bacilli, of the most virulent type that can be obtained, into the horse. The animal thus immunized gives a serum which is strongly protective, but the duration of such immunity is not as long as when Haffkine's vaccine is used. I believe that Yersin's serum, when properly prepared and not too old, when used in sufficient amount and in the right way, will give perfect results. Two years ago we had a case of plague infection of accidental origin in the laboratory. One of the students, in some unknown way, inoculated himself while engaged in making vaccines. He developed the pneumonic type of plague. The onset of the disease was sudden and severe. My attention was called to his illness about twenty hours after he had taken to bed. Pronounced evidences of the disease were found, such as high temperature, anxiety, respiratory distress, etc. An injection of the Yersin serum was given at once. Preparations were made at once from the throat and from the material coughed up, but these showed no germs. Within the next two or three hours a blood-streaked particle of sputum gave positive evidence of the existence of plague. The fellow was removed from his companions and taken to an isolation hospital. His condition was unfavorable to say the least. The young man had the pneumonic type of the disease, which form has a mortality of just about 100 per cent. One hundred and twenty c.c. of Yersin's serum were injected into the patient; of this 60 c.c. were given intravenously and 60 c.c. subcutaneously. Within twenty-four hours the temperature dropped from 104.5 to 100 and he improved greatly. Apart from a marked cardiac weakness which persisted for several months, he made an uneventful recovery. This case clearly shows the efficiency of the serum when given in large quantities and right into the circulation.

In connection with this subject I should like to say that it is exceedingly difficult to find the first case of plague which appears in any locality, simply because we are not expecting it and because it may be mistaken for several other diseases. It is very essential that the utmost care should be exercised in looking over suspicious cases, especially when one is in a locality where the disease is not known to exist. Early recognition means a relatively easy eradication. When, however, plague does establish itself it is exceedingly difficult to stamp out. We know that there is hardly another disease which is so difficult to eradicate as this one, and this is probably due to the fact that the germ lives in the animal body and thus keeps up a local focus for the spread of the disease.

**Dr. Emmet Rixford**, San Francisco—I do not know why I have been called on to speak before this meeting as I do not pretend to have a knowledge of bubonic plague. Though I reside in San Francisco I have never seen a case. If, however, you call on me as a sort of representative of San Francisco to say something from her side on this matter of the alleged concealment of the presence of the plague, a matter which has filled the medical and lay press for many months, I might be emboldened to occupy your attention for a few moments. San Francisco is not proud of the position in which she finds herself obliged to bear the taunts and sharp criticism of the guardians of the public health on the Atlantic coast. But there is something to be said on her side. She feels that she has not been quite fairly treated. It is, of course, hard for you to appreciate that much of the trouble was due to the local political situation in which you can have no interest, but such is the fact. There is no doubt in the minds of most of our local profession that had it not been for the extreme positions taken by rival and opposing political factions the sensational elements of the matter would have been largely avoided. The statements which received greatest publicity were exaggerated and far from the truth on both sides; the great mass of substantial citizens and the conservative portions of the medical profession were not heard in the controversy. Much has been said as to the domination of the commercial interests. Certainly the Merchants' Association of San Francisco, which is representative, did not at any time deny the existence of the plague. What San Francisco feared was quarantine. What she denied was the justification of quarantine, which was not only threatened, but in the case of two states was actually inaugurated against the state of California. At no time have the facts in the case warranted even the threat of quarantine. Quarantine is a frightful punishment to mete out against a community; it is justified only in the demonstrated presence of widespread and progressing epidemic. I am told to-day that the boards of health which met not long since had no real intention of placing quarantine on the state of California, that they used the threat merely to bring us to our senses and that the matter of possible quarantine would never have been suggested had the medical profession of California openly acknowledged the presence of the plague in San Francisco instead of denying it. The facts are that the medical profession of California in session of its State Medical Society two years ago did, by resolution, put itself on record as recognizing the presence of the plague in San Francisco, and the fact was widely published in the medical and lay press. It is now three years since the plague was discovered in San Francisco, and in all that time there have been but 90 sporadic cases, and these, with but two or three exceptions, confined to the Chinese race. At no time has there been an epidemic of plague in San Francisco, or anything approaching it.

There is another thing which seems to me to have considerable meaning in extenuation of this unfortunate controversy, and that is the fact that the world knows a great deal more about the plague to-day than it did even two or three years ago, and that had the present knowledge of the subject been generally disseminated when the plague first appeared in San Francisco the efficiency of preventive measures would have been appreciated, the comparatively slight contagious characters of the disease would have been recognized and the hysterical statements which set the whole United States agog would not have been made, and intelligent effort would earlier have been directed to the eradication of the disease. Happily now the situation in San Francisco is more satisfactory; there has not appeared a single case for more than two months, and the officials of the United States Marine-Hospital Service and the local and state boards of health are working in harmony, watching and fighting the disease, and it is to be hoped that we can soon say that the disease has no longer a focus in San Francisco.

Dr. W. J. Calvert, St. Louis—There is one feature of prophylaxis of plague which I should like to mention, namely, the dangers of Oriental infected centers or plague centers. In Canton and Hong Kong plague exists from year to year with practically no steps taken to check its propagation and dissemination. The present pandemic practically originated in Canton, to be distributed from Hong Kong to other parts. Even if plague could be quickly and effectually eradicated from San Francisco, Mexico, etc., it would soon be reintroduced from Hong Kong. It seems to me that in discussions on the prophylaxis of plague too little attention has been given to these sources of the disease. As long as they exist the world is exposed to infection. I think we should try to improve the hygienic conditions in these centers by properly educating the Chinese, who at present know nothing of modern medicine. If properly approached they would be only too willing to lend a helping hand to rid their people of this pest, and at the same time the outside world from the danger of infection.

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# THE HISTORY AND ETIOLOGY OF "MIGRAINE."

GEORGE M. GOULD, M.D.

PHILADELPHIA.

*(Concluded from page 172.)*

*The Eye and Migraine.*—For several thousand years the observation has been unconsciously persisted in that the cephalalgia is not a head-pain, but an eye-pain. Few or none in any definite way noticed that it was produced by near-use of the eyes, and none that the various extensions to other parts and organs, the intensifications of the pain, and the masking under a hundred other protean disguises, were also products of continued and increased eyestrain. But there was never any failure of the necessity to notice the implication of the ocular factor. The most noteworthy after the eye-pain was, of course, scintillating scotoma. The seat of this strange disorder has been placed in every part of the visual apparatus from the retina to the ultimate of the visual center.[1] Piorry's theories of "monophthalmalgia" or "iralgia," or of an affection of peripheral nerves of the eye, was followed by Brewster's thought that the retina is the organ affected. Airy, Förster and Liveing placed it within the cranium, the latter, with Wollaston, locating it in the thalamus. Mauthner argues against the cortical localization. Dianoux thinks the source is in the optic nerve, the chiasm, the optic tracts or the geniculate bodies. Baralt returned to the retinal theory and Féré defended the cortical localization. Possibly the mixture of phosphene symptoms helped to create the diversity of opinions. It has also been noticed that the typical fortification spectra is of great variety; that often it is not colored or quivering, etc.; that it does not have any uniformity of location or appearance; and, finally, that it is often not a positive phenomenon at all, but merely a negative one—"aphose," "anopsia," "vision nulle," etc. There may be a failure to perceive the image in varying degrees, in various parts of the field, and for varying lapses of time. "Blind headaches" the patients speak of in such cases. Spitzer is in error when he says all scotomas are positive, the products of irritation. I have had many patients who, on being narrowly questioned, bear witness to the negativity of the visual difficulties. Neither is it always binocular, as he contends. Theory is abundantly contradicted by observation when he says that "the visual aura of migraine is an irritation symptom, a binocular homogeneous hemiscotoma." Siegrist contends for the purely negative character of all migrainous scotomas, and believes they are of cortical origin. And such beyond question they are.

But wherever may be the location of these disturbances, they are visual in character. Thus what is recognized as the most frequent aura or initial symptom should have pointed to the visual function as the source of the mischief which it ushers in. In other diseases such a symptom dictates the location of the trephining of the skull. In migraine it is held as without suggestive value.

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[1] This has been elevated into an independent disease, especially by Galezowski and Féré. Charcot, Airy, Latham, Listing, Förster, Mannhardt, Ruete, etc., have especially commended or emphasized the special treatment of this form of migraine. The results are naturally *nil*.

Some 300 years ago Lepois, in beginning the study of medicine, found that he was greatly afflicted with migraine. He endured the attacks for four years and then, as thousands have done since, he fled to Italy. With cessation of study and with the out-of-door life he led, he soon recovered, and thought himself rid of the disease. But when he went back to his home and literary work the attacks returned as bad as ever. He naturally sought an explanation of the mysterious affection, and found it to consist of a serous exudation produced by vomiting. Since his day the same persistent cause has inevitably produced the infinitely multiplied result, but to the fact all have been blind, and all have multiplied theories as misleading and groundless as that of Lepois. And yet medicine is said to be purely empiric. The cause has been ever before and in their eyes, and empiricism has failed. And yet medicine is said to be a science, although none has observed the simple fact always present that near-use of astigmatic eyes is absolutely required to produce migraine. In the last century arose a so-called "cure" for migraine or for suffering eyes, atropin in the eyes, when, rarely, the eyes happened to suffer in migrainous attacks. Nietzsche was put through this cure. It acted as successfully as the other prescriptions, "Italy," or "Switzerland," or "walking the moors." But the cure did not last. The patient's ills returned when the mydriatic or the "change of climate" had ended, and there was return to literary work. Later, Brewster reports three cases of cure that really cured. He credits it to atropin, but ends the report of each case with the incidental remark that glasses correcting the ametropia were also prescribed!

Migraine or hemicrania, when we inquire with accuracy either of the literature or of private patients, is almost always not cranial in any common acceptation of the term, but is ocular. The fact that gave origin to the word is that not the skull, so much as the eyebrow, temple, eye and orbit, is the small portion where begins the headache, and whence with ingravescence, radiates or extends the disease to all parts of the head, the nervous and digestive symptoms. A large proportion of all so-called and recognized "ocular headaches," perhaps, have the same initial symptom and location. A great theory of the nature of the disease, migraine, was that of Piorry, which supposed that the neuralgia started from the nerves of the iris and was pathologically reflected from the cerebral sensitive center to other organs, from which reflex came all the symptoms and results of the subsequent disease. When the time and the state of medical science are considered, this showed a remarkably close observation and a near guess at the truth.

Other references to the eyes are, "anxiety about college examinations," "troublesome letter writing," "a rapid succession of visual impressions (in traveling) in upsetting the sensorium, and producing a vertiginous state allied to sea-sickness." Glaring lights, "sight-seeing," "an evening entertainment" have, of course, been noted. "Reading on a full stomach" caused the attacks in a great physician, and he could thus produce an attack instantly. Two young ladies always brought on the attacks by reading late at night. Incidence of strong light, a reflected light from snow, ice, a tablecloth, are also put as causes. In Dr. Airy's case the attacks generally came on "while the eyes are engaged with troublesome reading." It was so with Dr. Piorry, who could produce the disease experimentally "by strongly fixing the sight on reading." Looking at striped wall-paper, or a striped dress, a trellis, etc., are other causes, but it aroused no attention to astigmatism or the eyes in the physicians who chronicle the fact. Liveing's comments on these causes of the "nerve-storm" and the "habit" of migraine are most instructive—at least for us of to-day. Pity they were not more so to him. Liveing notes that dressmakers and others compelled to work far into the night, often for weeks together, complain of migraine. He does not fail to explain it by the "close and confined rooms."

It is set down that "mental exertion"—it is not called study—especially in lads at school and young men at college often causes the first development, or at least the increase, of the malady. "Close application to books," "and those modern instruments of torture, competitive examinations," are emphasized—"especially if coupled with deficiency of out-door life." "The same thing," says Liveing, "happens in later years to literary and professional men," especially between 30 and 40 years of age. But "overwork and over-anxiety in business" are, in these cases, the causes. "Students' life and intellectual competition," not eyes, are the supposed factors. "In Mr. A.'s son the early strain of school life caused the 'day-nightmare,' which preceded his megrim, and his subsequent attacks of the latter complaint were always multiplied by close application and almost ceased with an out-door life. It was much the same, though commencing at a somewhat later period, with his father and uncle." Dubois Reymond found his own attacks subsided when he had leisure to stop severe intellectual work. In one of Liveing's cases, "a child of 9 had been overworking at school, and on returning home early with a headache, etc." Another boy was 13 or 14, and to overapplication at school was ascribed his attacks. Of thousands of boys the same might now be chronicled.

But among many other things pertaining to the eye the most striking and convincing demonstration of the ocular cause of migraine, and at the same time one of the most remarkable instances of scientific error, is that of Dr. Alexander Spitzer. In 1901 he published a most erudite and critical monograph on the disease, the conclusion of which is that stenosis of the foramen of Munro is its unique and universal pathologic basis! This bizarre theory, the latest result of critical science, does not need a word to demonstrate its absurdity. One can only ask, why the inveterate disinclination to ignore the eye itself?

In his great work, Allbutt, like many others, notes that migraine is of exceptional frequency among those pursuing sedentary or in-door occupations, and rarely in those living an out-of-door life. The treatment is, therefore, advised to live much out of doors. But Allbutt and his departmental writer, Mackenzie, has no allusion whatever to eyes in the article.

In 1888, Dr. G. Martin (*Ann. d'oc.*, 1888, xcix, pp. 24 and 205), a French oculist, published an article which some time will be recognized as truly epoch-making. But two writers, so far as I have noticed, have even mentioned Martin's magnificent and daring attempt to bring the medical world to its senses. One of these, Spitzer, passes Martin by with a one-word mention of his name. The second, Schmidt-Rimpler, himself also an oculist, scorns Martin's theory with genuine unscience.[2]

One day Martin happened to get one of the astigmatic lenses of his own spectacles reversed, or "hindside-before," as patients often do, and he had a violent attack of sickheadache. This has frequently occurred with my patients, with the same sudden appearance of "the disease whose nature is unknown." Martin happened to possess the power of observation and to be a scientific scientist. From his own experience he was led to study that of his patients, and it was soon evident that their migraines were due to astigmatism, i. e., to partial and too continuous contraction of the ciliary muscle. When a single eye was astigmatic, and the other not so or less so, the pain (hemicrania) was over the astigmatic eye. With loss of one eye the bilateral migraine (if one may be excused the absurd term) became unilateral. When only one eye is used in vision, if it is the less astigmatic, the migraine is on that side. With cataract operations on both eyes the whole migrainous troubles disappear instantly, because there was then no function or malfunction of the ciliary muscle. (Surgeons and scientists should not, therefore, advise extraction!) Martin reports many cases of cure by spectacles correcting the ametropia. As to heredity, he counters capitally that the corneal abnormality (astigmatism) is as often hereditary as the incriminating diathesis. Of course, a headache can not be inherited, but only the anatomic, or other conditioning cause of headache.[3] The diathesis or constitutional factor determines whether existing astigmatism will produce migraine, and just what its nature will be. Martin reports 352 cases. Low astigmatisms, of course, are the rule—just such as the inattentive European oculist frankly ignores and scorns. There were, for example, in one series: 66 cases with 0.25 D.; 121 cases with 0.50 D.; 77 cases with 0.75 D.; 18 cases with 1.00 D.; 2 cases with 1.25 D.; 1 case with 1.50 D.

In higher degrees, as we know, there is no attempt to neutralize the corneal asymmetry and so no reflex disease. Near-work occupation is renounced, study interdicted, the eyes ruined, or a criminal life confirmed, but there is no migraine.

The morbid science which made the profession utterly ignore the testimony of S. Weir Mitchell published thirty years ago, made it overlook Martin's most valuable and scientific contribution. The great mass of medical men smiled and passed on after the manner of the leaders who knew so much and yet who knew so little. But the quiet protests and reports of other oculists began to appear, especially in America, and better still, thousands of patients began to tell thousands of their friends that "glasses cured my sickheadache." The doctors kept on with that wonderful smile, but it is now becoming more concealed and if exposed to public view, more sneery and much more sickly. The professional leaders, the text-book makers, the monograph-writers, especially if of European origin or tradition, have the smile thoroughly out of sight. In fact, they never smiled. Their books know nothing of eyes. In our country the bookmakers, as a concession to popular superstition and in order to be on the safe side, and to show they do know about all this sort of thing, make a lofty allusion to the ocular factor and treatment, but in a given case in their office they would no more think of directing the patient to an oculist than to a corn-doctor. Osler goes so far as to say that many headaches are from eyestrain; that many of these are hemicranial; and that in migraine the eyes should be examined. Tyson barely alludes to eyestrain, Anders also notes it, but in treatment he ignores it. French and Monro say eyestrain is a cause. The "New International Encyclopedia," volume of 1903, gives eyestrain as one of the causes of migraine, but fails to mention the fact under treatment. At present, all over the United States, there are quiet, almost unknown oculists who are curing thousands of patients of the afflictions described in the 14 historic instances of the two volumes called "Biographic Clinics." Hardly a week passes that noteworthy testimonies are not printed in medical journals by honorable oculists, that the eyes are a powerful factor in producing sickheadache and various morbid reflexes. Many other oculists do not publicly testify, and are afraid to acknowledge either their belief or the facts privately, for reasons which all consultants and referers of cases well know. There is an old disease called "Being between the devil and the deep sea." Thousands of American patients have learned that good refraction cures and prevents sickheadaches and many other miserable diseases. But their official medical advisers derisively smile that old-time, tired, sneery, sickly smile. The young and timid physicians, specialists or generalists—the great mass of the half-convinced or well-frightened—find themselves on a very narrow strip of an island or peninsula. On one side is water, deep, cold and far-reaching; on the other is what the polite little girl in her prayers called "the gentleman from hell."

*The Relation to Age, Sex and Occupation.*—From of old it has been noticed that migraine rarely appears before the age of puberty, and that with old age it disappears. But I am sure that it occurs more often in childhood than is supposed. Gowers goes so far as to say that one-third of all cases begin from the fifth to the tenth year. It all depends on the existence of ametropia and the amount of study, reading, etc., carried on. I have had a large number of school children afflicted with the malady in variant and typical forms. One little boy I particularly remember whose astigmatism for years increased about 0.5 D. every few months, was each time relieved of his intense vomiting by a change of glasses until the compensation of the higher astigmatism again became impossible. Puberty has nothing to do with the existence of the disease in either girls or boys. In the same way one of the superstitions of the ages appears in physicians' offices, both in patients and physicians, that with the menopause there is a sudden rising or exacerbation of many diseases, chief among which is migraine. The menopause has nothing whatever to do with this, which is wholly due to the increase of the ocular reflexes caused by presbyopia. The blunder should long ago have been manifest to the crudest observation.

There is no causal relation between the sexual history and organs and migraine. The old observation that women are more subject to the disease than men is also explained by the fact that women have always in the past done more near-work with the eyes than men—sewing, house-life, cooking, weaving, reading, etc. Whenever men pursue such occupations the disease is proportionally as frequent, modified slightly by their greater neurologic and temperamental resisting power.

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[2] This distinguished specialist rightly finds "glasses do not cure," because he fails to see that he has never prescribed proper glasses for his patients. The astigmatism, ametropia, etc., must be corrected in order to cure, and such correction is beneath the dignity of the German oculists. Patients so report and books and articles frankly confess the fact.

[3] "A man bored a hole in a tree and a woodpecker came and lived in it. 'The tree has conceived' said the man, 'and has brought forth a bird.' Next year the woodpecker went away and two flying squirrels lived in the tree. 'What a curious thing,' said the man, 'is heredity.' "

The books and monographs also speak of the *great* incidence of the affection among the upper classes, the liberal professions, men and women of letters, etc. As the French say, *La migraine est le mal des beaus esprit.* This means only that such people read and write more than others. I have never heard of a case of sickheadache among farmers, policemen, firemen, soldiers, ranchmen, trainmen, cattle dealers, and drivers, sailors, etc. But among seamstresses, typewriters, typesetters, latheworkers, watchmakers, book-keepers, copyists, sewing-machine girls, weavers, etc., the disease is as common as among students, literary workers, educated people, etc.

An amusing and long-drawn out correspondence and discussion occurred in one of the London papers in November and December, 1903, on "Brain-fag." Almost every line showed that "brain-fag" was caused by use of ametropic eyes, not by use of the intellect.

As to periodicity, when the life has been forced into regularity and routine, there is sometimes an approach to regularity of rhythm in the attacks. But in another case and in the same one if ocular rest is secured, even for a day, the return of the attack is replaced by health and happiness. The length of the attack may thus vary from a few hours to almost any number of days. The interim of freedom varies with each patient and with the ocular labor of each patient, from a day or two, to once in a lifetime.

*The Gastric Crisis.*—Inaccuracy of observation is shown in the descriptions of gastric symptoms by many writers. In the first place there should be a distinction drawn between nausea and vomiting. Many patients will have nausea only, not followed by actual vomiting, and it is the testimony of most patients that this nausea is far more agonizing than vomiting would be—that emesis would bring relief. On the other hand, there is not seldom intense retching without any or but little vomitus. This is worse than either of the other two kinds of sickness. The difficulty of understanding what actually takes place in a given case is enhanced by the disinclination, especially in literature, of patients to state that actual vomiting took place. They use euphemisms, "malaise," "nausea," "sickness" and many indefinite or misleading terms. One's doubt is heightened by the difference in different countries, and even in one country in the significance of the word "sick" and "sickness." Many writers state that the gastric complication comes on and ends suddenly, and with the vomiting there is immediate return to the normal state of health. But constant retching and digestive misery sometimes persists for one, two, and even three days.

Then there is the failure to notice that the nausea and vomiting are but the latest and severest stages of the one disease, brought on by continuous application of the eyes, regardless of the prodromal and cephalgic warnings. Parkman, Huxley, Browning, Spencer, Carlyle, heeded the warnings and avoided the results; Nietzsche, Mrs. Carlyle, Margaret Fuller, George Eliot and Wagner did not heed, and their lives were tragedies. There is also wanting in reports the recognition of the striking fact that patients with the severe gastric disease, sickheadache, which produces vomiting, indigestion, anorexia and anemia, are able and are irresistibly compelled to walk five, ten or fifteen miles a day, or take some other form of exercise; and they are able to do it with ease and with the most manifest relief of all symptoms. In what other organic or severe stomachal disease is this possible?

*Colds, Rheumatism, and Gout.*—In private practice the careful and scrutinizing oculist finds that common colds and influenzas have a strange connection with eyestrain, and the relief of these conditions often follows the wearing of glasses. A misplaced or wrong lens strangely results in "a cold." In the cases studied in "Biographic Clinics," there are many confirmations of the fact. Mrs. Carlyle's "eight influenzas annually" is an instance, and all through the biographies of several of these cases colds and influenza are mysteriously present. It is exactly the same with rheumatism and gout. I have found no accident or cause ascribed for Parkman's life-long arthritis. The accounts of Nietzsche's "rheumatism" and that of the other patients are likewise both mystifying and suggestive. Sir Henry Holland is the great advocate of the theory of the gouty origin of migraine. To excess of uric acid in the system he and many others ascribe the disease. Because migraine as an "independent disease" is in reality due to eyestrain, the only conclusion to be drawn is that eyestrain often causes gout, rheumatism, and the "uric acid diathesis." To that conclusion, medical science may sometime come.

*Pareses, Paralyses, Anesthesias, etc.*, are most constant, frequently reported, and remarkably peculiar symptoms, concurrent or resultant, in the history of migraine. The following are the words of some of the reports: "The right arm becomes numb in the paroxysm, and in consequence so useless that she will let things drop from the hand." "Numbness and a sense of tingling (like that in a foot or hand 'asleep,' as we say, and 'pins and needles') commence in the fingers of the right hand and gradually extend up that arm and side, until the throat is reached. The interior of the throat, the tongue and lips seems to share in the sensation, which is no longer confined to the right side, but affects these parts bilaterally. The speech is next implicated." "It is utterly impossible for me to speak." "This disorder of speech is like that of some other highly educated patients." "An arm or a leg of the same side, one time one side and one another, go to sleep." "I feel a tingling as if ants were on them. I have the same feeling in the mouth and tongue, and, further, during this period, I have the greatest difficulty in speaking." Disorders of sensation and touch were present in 21 out of 60 cases in one series, sometimes alternating with disorders of sight. A distinguished physician, Travers, describes in his own case the numbness in fingers and tongue, so that touch and taste were muffled, etc. Piorry speaks of "painful thrilling," vibratory in nature, "uselessness of the hands," "transient hemiplegia." The description of Nietzsche's "rheumatism" creeping up the arm, etc., and others may be construed as the explanation of popular and permitted pathology. In private practice I have often noted these disorders of motility and sensation as dependent on eyestrain, and if, as I am convinced, migraine is caused by eyestrain, there can be but one conclusion of the matter. The overlooked little and contemptible cause, just as in daily life, is also the secret of pathology and practical medicine.

*Ocular Paralysis.*—Transient paralyses and pareses of the ocular muscles are well-recognized effects in migrainous histories. "Of the internal rectus of the right."

"partial of the oblique," ptosis, etc., are explained as inhibitory phenomena. Double vision, of course, is the result of these ocular paralyses.

*Psychic Disorders,* not alone those naturally resulting from long and intense suffering, but such as temporarily and directly are the immediate consequences of the disease, are frequent in all the literature of migraine. Confusion of intellect, temporary loss of memory, inability to speak, or to speak intelligibly, embarrassment, etc., are frequent expressions. It is noteworthy that these are usually concurrent with anesthesias, paralyses, pareses, etc. "Confused and tumultuous mental and emotional conditions" are the most frequent effects. Hallucination is rare. Professor Lebert's severe seizures began with "incoherence of ideas and difficulty in finding words." "Strange and wandering in his mind;" "unable to collect his thoughts;" "mind affected;" "mentally incapacitated;" "whatever he read left no impression;" "disorder of ideation;" "double consciousness;" "the past and present confounded;" "feeling silly;" "losing their senses;" "confusion in the head;" "uneasiness;" "irritability;" "mental incapacity;" "sick-giddiness;" "vertigo;" "determinations of blood to the head;" "threatened apoplexy;" "tumultuary disorder," etc., are a few of the hundreds of expressions that might be gathered in the literature. The description given by Crichton (Vol. I, p. 237) of the case of Dr. Spalding of Berlin is most suggestive. When the patient tried to write he was unable either to think or to make sensible sentences. A multitude of excerpts might be gathered from literary history bearing witness to the same mental paralysis. Parkman's "stirred-up head" when he wrote a few minutes told him to stop; Wagner, Nietzsche, and indeed all eyestrain sufferers had the same or similar disorders.

But the profoundest evil is the dejection and disgust with life that follows persistent use of astigmatic eyes. It is noticed in all the best literature of migraine, ill humor, petulance, morbid introspection, irritability, proceed to melancholy and pessimism in the extreme cases. "Inexpressible fear" is recorded by Dr. Reynolds; "vague dread," "a sense of apprehension and insecurity," "dread," "apprehension," "something about to happen," "shuddering at the thought of an attack," "horror," are some of many expressions that have been recorded. Sir John Forbes says: "There seems to be some peculiarity in the pain, whatever be its degree, unlike the pains of other parts of the body, and as if it were combined with something of a mental quality. There is a feeling and a fear of impending death, and the primary symptoms of corporeal disorder, etc." This intellectual disorder and morbidity of the emotions is painfully evident in many great literary men who suffered from migraine or from eyestrain. In Parkman it was so evident, and yet so under control, that his friends, not himself, and the greatest physicians believed in his insanity. Wagner was also thought to be insane by physicians who knew nothing of migraine and less of eyestrain. Two of Nietzsche's oculists recognized the ocular origin of his malady, but that did not prevent the terrible tragedy of his paralysis. Even Professor Möbius, in 1903, says that "myopia can not produce migraine;" and this great clinician has not heard of astigmatism, or if he has heard of it, cares nothing for it. And if he cared much for it, he could not, in all Germany, get it corrected in his patients. Wagner resolved to commit suicide many times, when driven to desperation by his awful suffering. The effect of this mental torture and gloom in great literary workers is the almost single cause of the "literary pessimism" in an age of rugged vigor, luxury and national expansion.

The lessening of the amount of literary work that would otherwise have been done is exactly in proportion to the severity of the reflexes, or in the skill whereby they are avoided. In private practice one finds whole lives made futile, painful and invalid. Doctors are consulted, travel undertaken, spas visited, hydropathy pursued, quackery multiplied, patent medicines guzzled, narcomania encouraged, alcoholism made chronic. In biography one sees literary labor avoided, made impossible, reduced to an hour or two a day or to a life average of production of a few lines a day. To avoid this Parkman is compelled to write his own name by means of his gridiron, and Nietzsche is paralyzed at 44. Moreover, the literary work done is abnormal in character and is produced "in a white heat," the "nerves ablaze," in "a shivering precipitancy," etc., as Wagner, Nietzsche, Carlyle and others testify.

*Treatment.*—The chapters on the treatment of migraine are longer than that famous one concerning snakes in Ireland, but are less convincing and satisfactory. The systematic books and articles give pages of drugs to be tried. The profession at one time settled down to hydropathy and diet, until the amusing and yet warning resultlessness lessened the enthusiasm. And then the quacks took up these scientific methods. How both treated the 14 sufferers of "Biographic Clinics" may be read in those volumes. The present-day treatment of such patients is as ineffective and scarcely less irrational than in the time of Parr, who advises:

1. Keep the bowels open, i. e., give cathartics, purges, etc.
2. Drain from the head, by a perpetual blister on vertex, etc.
3. Emetics. "The tyro, without a suspicion of the difficulty, by the exhibition of an emetic has succeeded."
4. The fetid gums, especially if "joined with aloes."
5. Camphor, nitre.
6. He advises against the too common practice of cutting off the hair, because it is supposed to keep the head warm, and also in order that cold applications may be more conveniently applied. The author himself says that he long had headaches and that they returned frequently after shaving the head, and after he let the hair grow he suffered less in violence, frequency and duration of his paroxysms. (When Parr published his dictionary he was 59 years old!)
7. Bleedings, leeches, cupping-glasses, opening the temporal artery, diet, etc.
8. The suppression of the hemorrhoidal discharge. Parr doesn't believe much in this, but says that "in the whole circle of practical medicine no question is so difficultly explained as the connection of the hemorrhoidal discharge with the general health; or, rather, the supposed connection as stated by the German physicians. The experience of ages must not be overlooked. The hemorrhoids were considered at a certain period of life as essential to the male as the catamenia to the female."
9. Mental causes, anxiety, etc., are to be lessened.

*Sequels of Migraine.*—Martin and others have noticed that migraine often ends in a period of herpetism.

One is reminded of Wagner's life-long and inexplicable attacks of "erysipelas." Blanching of the hair has been noticed. The disappearance of migraine, says the "Dictionnaire des Sciences Médicales," is often followed by gout, asthma, hemorrhoids and cutaneous affections. Trousseau says the same of gout. Tissot, Wepfer, Schobelt, Laurent, Percy, etc., cite cases in which migraine disappeared and was at once replaced by an unconquerable diarrhea, to which the original disease was preferred. The relation to hemorrhoids noticed by Parr gives a glimpse into clinical medicine, at least of the middle and later ages, which seems to have been overlooked or outlived in our time.

*Use of the Eyes at Near-range is the Cause of Migraine.*—I have never had or read of a case of migraine or of sickheadache in which it was not strikingly manifest that near-use of the eyes was the cause of the disease. Fifty pages of quotations from Nietzsche, Wagner, George Eliot, etc., could easily be gathered testifying with amazing unanimity and intensity to this fact.[4] The records of private cases show the same thing. In the extreme cases, and especially during the ages from 40 to 60 years, this inability to write and read reaches such a height that it is possible only for an hour or two or a few minutes a day, and then only with cries of pain. Letters are replaced by postal cards, near-work with the eyes is renounced, and a trip is taken, wet-packs endured, walking or mountain climbing begun, etc. To such a degree was this recognized, both by patient and physician, that it became in the last few centuries an established practice to spend most of one's time in "walking the moors," journeys to Switzerland or Italy, trips to the seashore, etc. "A change of climate" became the universal prescription for all "brain-workers" who had symptoms of "brain-fag" or of "migraine." The great vogue of hydropathy arose largely from the suffering that followed near-use of the eyes, and spas, cures, mineral springs, health resorts of a hundred kinds and in a hundred places sprang up largely to meet the demand for ocular rest and the relief of other ills that came with it.[5] The world and the profession ascribed the cures to the stopping of intellectual work, and to the waters, packs, mountains and sunshine. But the ills returned always when the eyes were used. Thousands of other persons used brain and eyes without these ills, that made no difference in faulty observation, and the domination of theory and preconception.

Almost all observers find it impossible to draw any distinction between headache and megrim. What causes one causes the other. What cures one cures the other. As a matter of theory, they draw fine and infinite distinctions between the two, but they are terribly puzzled, contradictory and self-contradictory when it comes to observation of cases and to treatment.[6] The lighter forms of migraine, the unclassifiable thousand types of headaches and "masked migraine" are, says a later writer, "essentially of the same stock—merely feebly developed forms or the vanishing inheritance of previous generations." To such a pass have the theorists come! Driven by desperation and a sound observational instinct, the excellent Liveing, after excluding certain types, justly and rightly, crowds them all into "one independent affection, constituting a malady *per se*—all varieties of migraine."

Liveing is right in finding the riotous multiplicity of symptoms classed under headache, sickheadache, etc., to be the expression of one independent morbidity or malady *per se*, erroneously called migraine or the megrims. But Liveing, as well as every other writer on the subject (except Martin), missed the open secret. The appalling mystery of thousands of years, especially of the last 300, the explanation of the one disease whose cause and nature and cure are unknown, is now clear to all who wish to know, and whose minds are capable of receiving the truth. Migraine, in its so-called typical or in its multitude of atypical forms, is but one of the manifestations and results of eyestrain. Eyestrain produces almost an infinity of morbid results, and migraine, typical or not, is, if not absolutely, almost always, one of the products of the malfunction of astigmatic eyes. Any one can test the theory who wishes. The disease may be caused experimentally (on the skeptics, if they will!) by wrong glasses or by maladjusted right glasses. It may be cured by lenses correcting the astigmatism on which the disease depends.[7] The profession has for many years scorned the truth, until now the patients themselves are fast becoming aware of it without the doctor's advice. For many years to come they will probably have to teach physicians the etiology and therapeutics of their ailment.

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[4] The cephalalgia of students, says Parr, is often a nervous affection merely. "Whatever be the action of the nervous fibers in intellectual operations its excess is often a cause of pain; though, in many instances, the cephalalgia of students is connected with obstruction of the bowels, and very often with increased determination to the head."

[5] This cause has been operative, one may believe, in establishing the English custom of country houses and homes.

[6] An old astute observer wrote: "It may be doubted whether causes do not sometimes produce pain in the head, which are still less easily traced. . . . On a review of these causes of idiopathic headache we must regret that the source of so few cases is discoverable and that we have scarcely appropriate remedies for any of those which we can ascertain."

[7] Very rarely it is not curable, as in the cases of George Eliot and Lewes, because a life of suffering has killed all reaction even when the cause is extinguished. In the young it is always curable—if the careful and scientific oculist is found.

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# LIPOMA ARBORESCENS TUBERCULOSUM OF THE KNEE JOINT.

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SAN FRANCISCO.

J. S., male, age 50, has suffered with a swollen knee joint for several years; this has gradually grown worse, and was extremely painful on motion. He was incapacitated for work, and was compelled to rest heavily on his cane while walking. There was no history of traumatism, syphilis or tuberculosis.

*Examination* revealed a knee much larger than its companion, with an obliteration of the patellar folds. Fluctuation was present. The patella was very movable, due to the presence of fluid within the joint; no pain on manipulation. The patient could flex his leg to a right angle; this movement was accompanied by a "meaty" crepitus, not the form of crepitation, however, commonly felt in a diseased joint; in other words, a sensation was transmitted on palpation, as if some soft substance were present within the joint. This crepitation became more marked as the flexion increased. The skiagraph revealed a shadow darker on the outer side. There was no increase in the number of leucocytes and no temperature.

*The Diagnosis* of hydrops tuberculosis with synovial involvement was made.

*Operation.*—Under hemostasis, an incision was made along the outer side of the patella, which was followed by the escape of about 120 c.c. of a clear yellowish serum. As this serum escaped, myriads of villi protruded into the wound; these, on closer examination, were seen to spring from the postpatellar bursa. On the outer side, the bursa of the quadriceps, which formed the basement membrane of these villi, was easily extirpated, but it was soon seen that, in order to remove the growth completely, it would be necessary to expose the entire joint. This was done by making a transverse incision through the extensor muscle, severing it completely from the patella, which was then turned downward and forward. Considerable difficulty was experienced in separating the bursa on the inner side from its attachment to the patella and the condyloid surfaces of the femur; these, however, were found free from disease. Hemorrhage was slight and easily controlled by pressure. The ends of the severed muscle were then united with plain catgut and the wound closed, small gauze drainage. A plaster cast was used with the leg in extension, no counter extension.

*Course.*—Recovery was uneventful, the patient leaving his bed within a fortnight. At this time passive motion was commenced, so that after four weeks he had 60 degrees of flexion. He then passed from my observation, being compelled to leave the city. Six months have now elapsed, and he writes me that he walks without a cane, using one only when walking long distances. He can bend his leg to a right angle, and is much pleased with the result of the operation.

For the following description of the above tumor, I am indebted to Dr. Lois Nelson, pathologist of the California Women's Hospital:

*Macroscopic Examination.*—The tumor is an irregular mass measuring 15 by 8 cm. and from 1.5 to 2 cm. in thickness, and represents the true synovial bursa. The outer surface of the tumor is comparatively smooth. The inner surface is thickly covered with villi, which produce a shaggy appearance. Each villus has a smooth surface, most of these being pear-shape and attached to the base of the tumor by very slender stems. The villi vary much in size; some are 2.5 cm. in length, and are broad, and others are pin point in size and thread like.

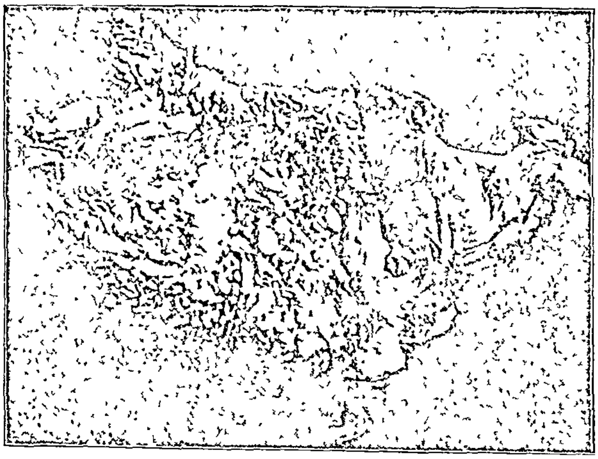
*Microscopic Examination.*—The base of the tumor is composed chiefly of fatty tissue, and projecting from this are innumerable villi of various sizes. Throughout this fatty tissue are scattered small areas of fibrous connective tissue, and very numerous groups of round cells. A few of these groups of small round cells show a typical arrangement of giant and epitheloid cells in the center and a border of lymphoid cells. The larger villi are composed of fatty tissue, with irregular areas of lymphoid cells, richly supplied with blood vessels, and an outer layer of connective tissue cells. Many of the smaller villi show very little or no fatty tissue, being composed chiefly of lymphoid cells surrounded by connective tissue cells. Several sections were stained for tubercle bacilli, but none was found. The specimen having been kept in formalin for several months prior to the examination would probably account for the failure to demonstrate the tubercle bacilli

*Diagnosis.*—Lipoma arborescens tuberculosum.

True lipomata of the knee joint have been observed. Riedel[1] reports two cases of this nature which were removed from the knee joint. They were both about the size of a walnut. In one of these cases the tumor sprang from the anterior surface of the femur, the other from the lateral surface of the patellar ligament. Koenig[2] explains the etiology of this condition, stating that in consequence of an overextension of the leg the sudden stain thrown on the fascia lateral to the patella would result in a tear of the synovial membrane, thus permitting the entrance of the extra articular fat into the joint. Here the nucleus for the development of a neoplasm is formed. If this be the correct etiology, this condition can hardly be classified with the new growths. In the "lipoma arborescens," as first described by Johannes Mueller,[3] a case is reported, characterized by the development of innumerable villi, which have undergone a fatty transformation, the process being considered a true lipomatosis of hypertrophic synovial villi. Schmolck[4] speaks of this condition as a "Lipomasie der Gelenk Zotten."

In consequence of impaired nutrition and diminished circulation, this process may become infected with the bacillus of tuberculosis, when there develops the "lipoma arborescens tuberculosum." This condition has been exhaustively described by Schmolck, who reports two cases of this disease, presenting excellent illustrations. In these cases, as well as the cases subsequently reported by Israel,[5] Von Brun,[6] Stieda[7] and Painter,[8] the true pathologic nature of the growth has been described.

The first case reported by Schmolck consisted of a tumor of the knee joint, and was composed of numerous villi of various shapes and sizes, several of them attaining the size of the thumb. On the surface of these villi minute tubercles could be seen macroscopically. The microscopic picture was that of tuberculosis. The *Bacillus tuberculosis* could also be demonstrated. In this case the joint contained no fluid, but in the second case considerable fluid was found. In the latter case the villi were not so large, but were of the same character.



Stieda reports two cases of his own, and reviews the literature quite exhaustively. His conclusions are reported in detail by Painter.[8] The latter reports seven cases of lipoma arborescens operated on by himself, with gratifying results. His conclusions are, in the main, in accord with those expressed by Stieda, but he believes tuberculosis to occupy a less prominent place in the etiology of this condition than does Stieda. Painter advocates the early opening of the joint, when the absence of clinical evidence of joint disease leads to the diagnosis of non-tubercular affection.

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[1] Riedel: Deut. Zelt. f. Chirurgie, bd. x, p. 371.
[2] Koenig: Ibid.
[3] Joh. Mueller: Pitha and Billroth, vol. ii, p. 576.
[4] Schmolck: Deut. Zeit. f. Chirurgie, vol. xxiii, p. 273.
[5] Israel: Handbuch d. Prakt. Chir., vol. iv, p. 369.
[6] Von Bruns: Ibid.
[7] Stieda: Beitr. f. Klin. Chir., xvi, p. 1896.
[8] Painter: Boston Med. Jour., March 19, 1903.

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**In Anesthetizing.**—Never forget that the safest anesthesia is surgical anesthesia, steadily maintained. Never forget that the least quantity of anesthetic which will secure this is the best. Never forget that Waller was right in saying that "Death is nearly always due to unskilful administration, and that is the administration of an overdose."—Stone in *Colorado Medical Journal.*

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## IMPROVED TECHNIC FOR NERVE TISSUE EXAMINATION.

The invention of a new technical method is often of the greatest importance for the advancement of our knowledge of the minute structure of the human and animal body, for a method once devised by a single investigator may be applied by hundreds of others to the solving of special problems. So important is the extension of technic that a number of the ablest investigators, among whom as especially noteworthy Carl Weigert of Frankfort may be mentioned, devote nearly all their time and energies to this phase of science.

Particularly in the study of the structure of the nervous system is the influence of the introduction of special methods easily discernible. As a matter of fact, most of our newer knowledge of neural anatomy can be grouped around the methods of Flechsig, of Weigert, of Marchi, of Golgi, of Nissl and the methods of Apathy and Bethe. Especially fruitful was the modification of the Golgi method, devised some fifteen years or more ago by the distinguished Spanish investigator, Ramon y Cajal. His "rapid process" applied to embryonic tissues and the nervous systems of the newly born, revolutionized our ideas of the structure of the central and peripheral nerve organs and gave to the study of the histology of the nervous system an impetus so great that it is still felt in all quarters of the globe.

This autumn Ramon y Cajal has published the details[1] of another method applicable to the study of the nerve tissues, but this time not for the demonstration of the external morphology of the nerve cells and fibers, but for revealing those extremely delicate intraprotoplasmic structures, the neurofibrils of Apathy and Bethe. The methods for studying these fibrils employed hitherto—those of Apathy, Bethe, Simarro and Donaggio—have all been exceedingly unsatisfactory, owing to either inconstancy of result, complication of technic or limitation of applicability to single portions of the nervous system or to the neural tissues of only certain of the animal series. The new method of Ramon y Cajal does away with all these difficulties. It yields constant results, is simple, and is equally applicable to the tissues of man and animals down even to invertebrate forms. Moreover, it stains the neurofibrils from the time of their first appearance onward, so that we now have the means of determining both the histogenesis and phylogeny of these remarkably attenuated structures which exist within the protoplasm of the nerve cells. The details of the method are given in the article referred to. Suffice it here to say briefly, that it consists of impregnation with silver nitrate and subsequent reduction with a solution of pyrogallic acid.

One of our contributors, recently in Madrid, visited Ramon y Cajal's laboratory, and was shown the neurofibrils stained in a whole series of nerve-cell preparations of the most varied origin. The single threads stand out distinctly, stained dark brown coffee or chocolate color. Two kinds of neurofibrils can be made out: 1. Large primary fibrils which pass from one dendrite into another. 2. Small, pale granular secondary fibrils which anastomose with the primary fibrils and give rise to a complicated intraprotoplasmic network.

The significance of the neurofibrils is as yet entirely obscure. Apathy and Bethe regard them as the conducting elements of the nerve-cell protoplasm, but the evidence in favor of such a view is far from convincing; indeed, many of the best authorities regard the theory that the intraprotoplasmic fibrils conduct, as improbable. Further studies of these interesting features of the nerve cell will be awaited with interest.

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## OYSTERS AND TYPHOID FEVER.

The towns known as "The Oranges" in New Jersey have been suffering from more typhoid fever than usual this year, and a recent increased prevalence of the disease led to a careful investigation by the health board of the city of Orange. As is usually assumed, this increase was at first attributed to the water supply. Careful bacteriologic investigation, however, failed to confirm the suspicion of possible sewage contaminations of the drinking water of the town. It was found, however, on investigation, that a number of the patients suffering from typhoid fever had been hearty eaters of raw oysters, especially in the period shortly before their fever manifested itself. The local health officer declares that "careful investigation has confirmed us in the belief that the present outbreak of typhoid fever has resulted from the consumption of oysters procured from infected beds."

This is, of course, not the first time that such an origin of typhoid fever has been suggested, but it should recall attention to the present methods of marketing oysters. Unfortunately many people seem to regard the plump white oysters, so often served now in restaurants, as preferable to the grayish, rather thin oysters that the gourmet of a few years ago was accustomed to consider the luscious delicacy best suited to his taste. Because of this false taste, oysters are bleached and rendered plump by dealers on the way to local markets. Normally oysters are accustomed to sea water. If they are removed therefrom and placed in fresh water for a time, they become much whiter than before and apparently grow fat. This plumpness, however, is not due to any addition of substantial material to the oysters' tissues, but only to the retention of more water than under natural circumstances. In a word, it is a question not of digestion of food and consequent accumulation, but rather a freak of osmosis. In order to secure this specious appearance of plumpness, oysters are not infrequently placed in fresh-water streams for a time before being served. Needless to say, with the present increase of population in this country, there are very few fresh-water streams that are not subject to contamination by sewage. Owing to the fact that oysters gather their food from water that flows by them, they are sure to retain any organic particles present, and typhoid bacilli thus find not only lodgment but a favorable culture medium in the oyster tissues. The fresh water apparently renders digestive processes in the oysters so sluggish that bacilli thus retained are not digested, as would be the case under normal conditions of life, but, on the contrary, actually increase in numbers, leaving the host still more incapable of resisting invasion.

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[1] Ramon y Cajal S., Sobre un Sencillo Proceder de Impregnacion de las Fibrillas Interiores del Protoplasma Nerviosa. Arch. Latinos de Med., y de Biol., vol. i, 1903, Mudrid.

It would, therefore, seem rather important that, first, the present mistaken taste for bleached, plump oysters, which any connoisseur well knows are by no means equal to the thinner, grayish oyster fresh from the sea water, should be corrected; second, the present habit of dealers in supplying this false taste of their patrons should be officially discouraged, if not actually forbidden. Those who feel they must indulge in the luxury of uncooked oysters should be careful to know the source of the bivalves supplied them, and especially whether the bleaching, fattening process has been carried out in water that is above suspicion. These precautions are even more important in the inland towns at a distance from the seacoast than near the fishing beds of the oyster, because when oysters are shipped to some distance they take on an even flabbier appearance than normal, and dealers are tempted to improve their looks by the often dangerous process of immersion in fresh water.

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## DOES IT PAY TO BE A DOCTOR?

From the heart of one who loves his fellow-men comes the latest tribute to the life of the real physician. Calm and dispassionate, but with a keen appreciation of the noblest ideals which we ourselves are so fond of holding up, Arthur Goodrich, in *Frank Leslie's Popular Monthly* for February, discusses: "Does It Pay to be a Doctor?" It will please every physician—even those for whom a veiled shaft is drawn—for it is so sensible. The following is worth quoting:

> The renowned physician started to study his profession late in life. He worked to make himself most helpful in his private practice, then to hospital patients, and finally as a professor to the young men who were beginning the long, uphill journey he had made. He has worked as nearly all of the so-called "big men" have worked, with philanthropic intent. He has an income of, perhaps, $60,000. The second man started work early: he has done a great deal of good, but his eye has been constantly reflecting the glitter of golden profit. He has an income of about $4,000.
>
> This, then, is the rock—the rock of money madness—on which the profession splits into professional doctors, merchant doctors and quacks. Of these the profession recognizes only the first, and draws rigid lines against the other two. Among reputable physicians there are, of course, many who have as acute an itch for money as a Wall Street broker—the doctor who said "charge big fees" is a reputable practitioner in the profession—but every doctor is a member of a vigilance committee against commercial methods, and the hand of the profession, through the county medical societies and other organizations, holds the men in line. Every doctor knows that once a man is cast out it is almost impossible for him to regain his standing in the profession, the standing he has worked years and spent thousands of dollars to obtain.

The commercial physician, the quack and the patent-medicine parasite are all valued at their true worth, and the author apparently draws the line from experience, such as the writer ought to have who essays to write such an article. While most of the statements in the article are correct, it is an overstatement to say that there are 200,000 physicians in the country. The overcrowded condition, bad enough as it is, is not so bad as that.

Mr. Goodrich calls attention to the required four years of academic work, four years more of grinding work in a medical college, two years of practical experience in a hospital, and then the sitting down to wait—for the physician can not go out after patients. Then there is the building up of a practice, slowly and by reason of worth and personality, while he fills in his odd time by perfecting his knowledge. After the practice is acquired, the average physician has only an income of $750. Large financial awards come to few men in the practice of medicine. Large fees, though justified, are frowned on by an inconsistent public, and the safeguards which the medical profession itself has erected to wall off commercialism holds the physician back from competence—to say nothing of a comfortable income.

Thus Mr. Goodrich answers the question from one viewpoint, but from another he paints the beautiful portrait of a true physician. "Anyone who sees a physician's work at close range knows that he spends hours of conscientious labor for which he never means to get money returns. The dispensaries and hospitals are filled constantly with sick who can not pay, and be it said, to the shame of the public, with sick who can pay as well." In every other profession general publicity is looked on as legitimate, but for the physician any kind of personal publicity is looked on askance by the profession. The profession looks on its work as private with its patients. Physicians publish valuable results for other physicians to use. "Hundreds of physicians and surgeons are constantly doing things that are really great and the public has never heard of them and probably never will, but the profession knows and respects them." The editor says in an introductory paragraph:

> There is no group of men of like importance in this country whose pictures and personalities are so unfamiliar to the public as those of our distinguished physicians and surgeons. The fact is a striking commentary on the unique conservatism

which has marked a single profession apart in our commercial age.

The two closing paragraphs are as follows:

> There are, however, other rewards, not for the doctor who plays politics or who uses "judicious advertising" without being caught, but for the conscientious, earnest man, "what amplest recompense!" Saving lives by quiet heroism, healing the sick, lengthening and lightening the days of many a chronic sufferer, daily deeds of kindness and charity, constant self-sacrificing service; these form a heritage that money can scarcely measure. An old and successful business man, after a conversation with a poor country doctor whom he knew as a boy, remarked with a tremble in his voice, that cried sincerity: "I'd give all I've got for that man's memories."
>
> Did you ever see a surgeon at work and feel the calm with which he unostentatiously does wonderful and dramatic things? Have you ever met a good doctor of experience and failed to feel his usually quiet, dignified, forceful personality, with the sentimental edges knocked off by rugged experience, but with sympathies, quickened and chastened by suffering? He is certainly different from the everyday *man with whom you* do business. Is it true that he is a dying relic of an "old school," or is he one of the bands between the old and a more vital future which will have in it the vigor and progressiveness of the present day, ripened and mellowed with old-time gentleness and charity?

## INHERITED TUBERCULOSIS.

The old notion of the direct heredity of consumption has been very generally treated as exploded since the discovery of the bacillus by Koch, and it is almost a point of faith at the present time to deny anything more than the remotest possibility of such heredity. The most that is usually admitted is that predisposition may exist, but that this may be counteracted by environment and proper treatment. Certain clinical facts, however, have still led some persons to maintain that the danger from communicable disease is on the whole less serious than from consumptive ancestors, whether the germs were transmitted directly or not. Thus, in an article published in The Journal[1] on conjugal tuberculosis, Bannister came to the conclusion that it was far more dangerous to have a consumptive parent than a consumptive wife or husband. Constitutional predisposition was credited in these cases, not the transmission of the germ. The latter, though known to be possible, was considered to be one of the rarest of happenings.

In a recent article,[2] however, Warthin and Cowie bring out certain facts which seem to point to the possibility of the direct transmission of the disease from parent to child, and that it may be of much more frequent occurrence than has been of late years suspected. After a careful study of the reported case and a detailed report of the postmortem findings, they conclude that placental tuberculosis is by no means only a rare possibility. In their case there was a general miliary tuberculosis of the mother with abortion and death at the fifth month, tuberculous thrombosis of the placental sinuses and intervillous spaces, tuberculosis of the placenta, tuberculous thrombi in the fetal blood and the presence of free tubercle bacilli in the fetal circulation without histologic change. They point out that the presence of tubercle bacilli in the maternal sinuses and in the intravillous spaces is a point of great significance, and that if the germs gain access to the circulation they will naturally tend to collect in the placental sinuses, there to give rise to pathologic disturbance. If their occurrence is possible in such great numbers, as in this case of miliary tuberculosis, is it not also probable, they ask, that, in cases of chronic or local maternal tuberculosis in which bacilli pass into the general circulation, the germs may collect in like situations and their future development depend on their ability to multiply? It may be perhaps assumed that the germicidal action of the blood will suffice to inhibit or destroy small numbers. If multiplication, however, does take place and agglutination and coagulation of the blood result, it is probable that these processes serve, within certain limits, to protect the placental tissue, but the authors referred to do not consider it safe to say that an intact syncytium will not permit the passage of bacteria. This, however, is not of such great importance if a denuded surface will permit the passage of bacteria. From its earliest period the chorion shows progressive atrophy and growth. Anemic infarcts are constantly present, and through such damaged areas bacillary transmission may occur. In the later months of pregnancy the placenta is a senile organ with many vulnerable points and many opportunities for the passage of germs. The fact that the bacillus may be present in such numbers in the fetal circulation without causing changes other than those of thrombosis is noted as apparently remarkable, and several theories are suggested to account for it. There may have been a very recent passage of bacilli through the placenta, or diminished virulence may be assumed or relative or absolute immunity on the part of the fetal tissues. The second possibility may be thrown out, as the germs showed full virulence in inoculation experiments. The question of immunity of fetal tissues will have to be settled by further investigations, but Warthin and Cowie think, if it can be proved that such an immunity exists and that tubercle bacilli may live for some time in the fetal tissues without causing histologic changes, the theory of latent congenital tuberculosis will receive a tremendous impulse. There are certain reasons for suspecting that such latency may exist, and cases have been reported, such as one referred to, by Doleris and Bourges, in which such a latency of tuberculosis seemed very probable. The apparent immunity, moreover, of the fetal tissues to certain poisons is well known.

Latent congenital tuberculosis, therefore, they conclude, is both possible and probable, and it is not unlikely that it is of much more common occurrence than is usually supposed. If we accept these facts and the deductions of the authors, it would seem that we shall have to revise one of the commonly accepted notions at the present time, namely, that of the rarity of transmitted

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1. The Journal A. M. A., April 13, 1901, vol xxxvi
2. Journal of Infectious Diseases, January 2.

congenital tuberculosis. At all events, the paper is one that should leave an open mind in regard to the subject for future investigations to satisfy more or less thoroughly. There is evidently a need of further study, and perhaps one more disputable point has been added to the many that now exist in regard to tuberculosis.

## THE PRICE OF DIPHTHERIA ANTITOXIN.

Newspapers have had much to say, in the past few days, in regard to an antitoxin trust and the rise in price of antidiphtheritic serum. Much of what has been published has been of the sensational order, naturally. It is only fair that both sides of any question be considered before deciding pro or con, and with this in view THE JOURNAL has corresponded with three firms manufacturing this article, and has conferred with members of the Health Department of the City of Chicago, and with others interested.

It is denied by two of the firms that any combination of manufacturers of antitoxin has been formed, and it is asserted by all the firms that the price of the serum, "quality considered," is not higher, but lower than formerly. Until recently two grades of antidiphtheria serum have been on the market—a concentrated serum and a weaker one. The latter is no longer manufactured, and only the concentrated can be obtained, this being supplied in 1,000, 2,000, 3,000 and 4,000 units packages. Bulbs containing, respectively, 500 units and 1,500 units are no longer supplied. We quote below from the price lists of one firm, which are about the same as those of the others:

1903 PRICE LIST.

| Number of Units. | "X" Prices. | "XX" Prices. |
|---|---|---|
| 1,000 | $1.50 | $2.25 |
| 2,000 | 3.00 | 4.00 |
| 3,000 | 4.50 | 5.75 |
| [4,000 | Not listed | Not listed] |

Twenty per cent. discount to the retailer; 33 1/3 per cent. to the wholesaler.

1904 PRICE LIST.

| Number of Units. | List Price. |
|---|---|
| 1,000 | $2.00 |
| 2,000 | 3.50 |
| 3,000 | 5.00 |
| 4,000 | 6.50 |

Twenty-five per cent. discount to the retailer; 33 1/3 per cent. to the wholesaler.

It will be seen by comparing the price lists for the two years that there is an apparent small reduction in the price of the concentrated serum. We understand that the Health Department of the City of Chicago has been supplied in times past with the less concentrated or weaker serum, and this at a figure lower than that listed to wholesale druggists, the various manufacturers making bids for furnishing the serum. It is asserted that the Health Department has received such a discount that it only paid for 1,000 units, $0.57; for 2,000 units, $1.14; for 3,000 units, $1.71. If these figures are correct it is plain that the cost of the serum to the city will be twice that of last year, even with the same discount, because nothing but the concentrated serum can be obtained.

Now comes the question of the relative value of the two grades of serum formerly manufactured. Would 1,000 units of the weaker serum do the work of 1,000 units of the concentrated serum? Is the concentrated serum more reliable than the less concentrated, or is it merely more convenient as it is much less bulky? If the weaker serum is unreliable, it is well that it is no longer on the market, but if it has been found satisfactory, then its removal from the market forces the use of the more expensive serum, simply because concentration makes it more convenient to administer. Is it possible that the Health Department in previous years has been supplied with an inferior grade of serum in order to meet competition prices? We hardly like to think so. On the contrary, we understand that the serum used by that department has been perfectly reliable and satisfactory.

Can it be that, even at the low figure of 57 cents per 1,000 units, that the manufacturers realized a marginal profit, or are we to believe that the firms supplying the city with antitoxin have been doing charity work? Possibly the opportunity to advertise their goods was an inducement to make the special discount of some 62 per cent., whereas even the wholesalers are reported to have had only 33 1/3 per cent.

With the variable scale of discounts given in the past, we are inclined to infer that there must have been a large profit in the manufacture of antitoxin, especially when sold at the smallest discount, e. g., 20 per cent. to the retailer.

Judging from the correspondence before us and from the information which we have concerning the manufacture of antitoxin, we can not but believe that the prices of antitoxin have been and are higher than is necessary for a reasonable profit. We say this, realizing full well the great responsibility that rests on those who undertake to supply this most valuable therapeutic aid. Further, we can not believe that the firms supplying the Chicago Department of Health at over 60 per cent. discount from former prices were losing money.

Physicians are especially interested in this matter, not only because they want a city health department to secure the means of saving lives at a reasonable expense, but because they have the welfare of their patients at heart, many of whom, unable themselves to pay for antitoxin, are supplied at the physician's expense. But under no circumstances must it be thought that physicians want a cheap antitoxin; it must be good and reliable under all circumstances, no matter what the cost.

## FIRE RISKS IN COLLEGE AMPHITHEATERS.

These are the days of building inspection, revision of law, installation of fire-prevention devices and polishing rusty exit hinges. Shocked by the sacrifice of more than half a thousand lives in the Iroquois Theater fire in Chicago, the whole country is emphasizing that all buildings used for concourse shall be provided with adequate fire protection and means of escape. There is a class of buildings which has not, to our knowledge, been mentioned in the overhauling process now going on. In many medical colleges may be found amphitheaters on the third or fourth floor, seating, in some instances, hundreds of people, and lacking adequate means of exit. Many of these are in buildings whose interiors are wooden and of quick-burning construction, the stairways are few, narrow and winding, and the doors are small. On extraordinary occasions these amphitheaters are crowded to the limit, the halls below are deserted, and a fire under the right circumstances might cut off means of escape. An inspection of some of these buildings will reveal conditions alarming to those who have not heretofore viewed them with this possibility in mind. Because no terrible disaster has ever occurred is no reason that one may not occur. It would be well for those responsible for these buildings to, at least, take a look around and consider the possibilities.

### THE VALUE OF THE PHYSICIAN'S SERVICES.

The charge to be made for professional services will necessarily vary with a number of different conditions. This proposition is recognized in the practice of the law, and it should be equally so in that of medicine. Occasionally a judge on the bench may decide differently, but a moment's reflection will show the error of such a decision. There are to be taken into account especially the nature of the case, the character of the treatment to be pursued, the time consumed, the skill of the physician, and also the station—public and private—of the patient. The physician is, by force of circumstances, compelled to have a varying fee even for similar service. He can not elect to treat only the rich; neither can he afford to treat only the poor. He gives much of his service gratuitously, so that none is deprived of the opportunities for relief afforded by his skill and ability. For these reasons the physician's fee can not be a fixed and inflexible one. This would seem to be the view held by Judge Ashman of Philadelphia, as expressed recently in a decision rendered in the Orphans' Court: "The life of a rich man," he said, "is worth more than the life of a poor man, and the physician has a right to charge the millionaire more for his services than he does the laborer. . . . The physician is unlike the merchant, who has goods of different quality to sell at various prices. He must give his best service in every case. But it does not follow that the service is worth the same in every case. . . . Human life has a pecuniary value of variable quantity, greater in the millionaire than in the laborer. Thus, the practitioner of common sense has a maximum and a minimum charge and makes out his bills to suit the pecuniary circumstances of the patient."

### NEW YEAR CHANGES IN OUR FOREIGN EXCHANGES.

All our foreign exchanges show renewed vitality and improvement along various lines with the opening of the new year. The *Medizinskoe Obozryĕnie,* which Dr. Sprimon of Moscow has conducted so ably since he founded it thirty years ago, has been acquired by the Moscow Medical Society, but he will continue his editorial supervision. The *Presse Médicale* enters its eleventh year with several improvements, and the *Deutsche medicinishe Wochenschrift* has reorganized some of its departments and enlarged them all, as has also the *Münchener medicinische Wochenshrift.* The *Semaine Médicale* continues its serene course of restricting its size to twelve pages a week, and publishing only what it sifts out of the overwhelming material which each week offers. It still continues its remarkable practice of editorial abstracts of prominent articles published elsewhere, refraining from citing the authority. The series of letters from America is concluded. It has been as satisfactory as could be expected from a young and credulous physician traveling over a foreign land. The impressions derived from such a trip depend on the personal bias of the various natives the traveler happens to encounter, and their greater or less fondness for joking. The wonderful strides that have been made in the medical sciences in the last few years compel the ambitious physician to read about what is being done everywhere or he will soon be left hopelessly in the rear. Consequently the medical press everywhere feels this impetus and stimulus.

### THE PUBLIC PRESS COMMITTEE.

There is a function of the county medical society which is as yet not fully utilized, but which is sure to become more widely exercised when the machinery now being adjusted is in better working order. We refer to the "public press committee" of a society to contribute to newspapers articles unsigned as individuals, bearing on current medical and sanitary topics that will be of interest to the general public. The *Cleveland Medical Journal*[1] said recently: "The Newcastle County (Delaware) Medical Society has for some months had such a committee, which is doing excellent service to the profession and to the public." One needs only to glance at the average newspaper or popular journal to realize that there is a demand for this sort of information. Papers have columns headed "Talks with the Doctor," "Medical Items," "Department of Hygiene," etc., and it is certainly to be deplored that newspapers, in their inability to secure this information from reliable sources, have opened their columns to the advertising quack and to the man who is only a little "off color," but who is unwisely ready to furnish a medical article over his own signature. The fact that the articles are often full of errors and painfully exhibit a lack of education on the part of the author, only emphasizes the need of a public press committee. Instead of the antagonism which so often exists, there ought to be harmony and co-operation between the ethical physicians of a community and its newspapers. As rapidly as societies can arrange the matter, certain ones should be designated to perform this office, and it certainly will tend toward a greater harmony between physicians who shun publicity and newspapers whose business is publicity.

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[1] November, 1903.

# Medical News.

## ILLINOIS.

**Physician's House Burned.**—The house of Dr. George T. Rowland, Martinsville, with all its contents, was recently burned.

**Smallpox at Sandoval.**—Public schools at Sandoval have been closed and general vaccination has been ordered on account of an epidemic of smallpox.

**Operation on Rockford Physician.**—Dr. Arthur F. Comings of Rockford was operated on January 14. The operation revealed pancreatitis, multiple abscesses of the pancreas and cholelithiasis. Dr. Comings rallied well after the operation.

### Chicago.

**Many Patients Treated.**—The annual report of the Hospital of St. Anthony of Padua shows that during the year 1,099 patients were treated.

**Will Rebuild Hospital.**—Michael Rees Hospital is to be rebuilt at a cost of more than $250,000. A special committee of the United Hebrew Charity Association has raised $145,000 of the amount.

**Chirography Expert Dead.**—Henry L. Tolman, noted as a microscopist, and an expert in handwriting, professor of medical jurisprudence in the University of Illinois Medical Department for many years, died at his home in Evanston, January 14, after a long illness, aged 55.

**Operation on Dr. Andrews.**—On January 16, Drs. E. Wyllys Andrews and Frank T. Andrews operated on their father, Dr. Edmund Andrews, for vesical calculus. The venerable patient rallied well from the operation, and is making satisfactory progress toward recovery.

**Must Muzzle Dogs.**—The city council passed an ordinance, January 18, on lines suggested by the Chicago Medical Society, providing that dogs must be muzzled all the year round, unless led by a chain. The fine for violation of this ordinance is to be not less than $2, nor more than $10.

**Deaths of the Week.**—During the week ended January 16, 566 deaths were reported, a mortality of 15.14 per 1,000 per annum. Pneumonia led with 117, followed by consumption with 64, heart disease with 50 and Bright's disease with 45. For the corresponding week of last year the death rate was 17.31 per 1,000.

**Inspection of Hospitals.**—Another and more rigid inspection of private hospitals, with special reference to their precautions against fire, was begun during the week. The last previous inspection, in the spring of 1902, was made by the building department alone. The one now being made is under the joint direction of that department and the department of health—a building inspector and a medical inspector working together in each investigation and making joint reports to each department. In this way it is hoped to secure better results in the matter of prompt remedy of defects discovered.

## MARYLAND.

**Smallpox.**—Dr. Otis B. Stone, Libertytown, is reported to have contracted varioloid from attending a smallpox patient.

**Registration of Nurses.**—A bill has been prepared by the Maryland State Society of Graduate Nurses to be introduced at the present meeting of the legislature, providing for state registration of nurses.

**Recommends Discontinuance of Appropriations.**—The Board of State Aid and Charities, in its report to the legislature, recommends that the appropriations to the medical schools be discontinued, also those to the Baltimore University Hospital, Franklin Square Hospital, attached to the Maryland Medical College, and the hospital of the Woman's Medical College.

**County Hospital and Pensions.**—At a meeting of the Washington County Medical Society, January 13, a committee was appointed to consider the advisability of establishing a county hospital. Another committee was appointed to frame a bill to be presented to the legislature for the reorganization of the outdoor pension system and medical care of the poor. It is proposed that all cases be investigated by inspectors as to their fitness to receive charity, and that physicians in each district shall attend the indigent sick at county expense.

**Report of Hospital.**—The report of Springfield Hospital for the Insane shows 509 patients there October 1. Of those discharged 28 had recovered, 10 were improved, and 1 escaped and was declared not insane by a jury. The percentage of cures to admissions was 21.05 of males and 16.43 of females. There were 20 deaths, 10 male and 10 female. Dr. Clark says there is a crying need for a hospital building for each sex for acute cases; also of an isolation ward, without which they are completely at the mercy of an epidemic. Tubercular cases are isolated in tents and epileptics in cottages. Insanity is greatly on the increase.

### Baltimore.

**Mortality from Lung Diseases.**—There were 228 deaths last week, pneumonia causing 38, consumption 31, and bronchitis 14.

**Bequests.**—The late John E. Hurst, millionaire merchant, left $30,000 to the United Charities Hospital at Cambridge, and $1,000 to the Church Home and Infirmary of Baltimore.

**Hebrew Hospital Report.**—Dr. Samuel L. Frank, president, reports 243 patients treated last year at the Hebrew Hospital, and in the dispensary thereof, 8,934. Legacies and donations were received amounting to $3,610.

**Election.**—At the annual meeting of the Baltimore Medical and Surgical Association, January 11, the following officers were elected: Dr. James M. Craighill, president; Drs. William B. Perry and John T. King, vice-presidents; Dr. Eugene L. Crutchfield, secretary; Dr. Nathan Winslow, treasurer; Drs. Edward L. Whitney, Joseph H. Branham and Martillus L. Todd, executive committee, and Drs. Wilmer Brinton, Daniel L. Dunnott, and Isaac R. Trimble, committee on honor.

**Personal.**—Dr. William H. Welch has been re-elected president of the State Board of Health.——Dr. William T. Howard celebrated his eighty-third birthday, January 12, by a dinner to his professional friends.——The supervisors of city charities have established a free medical agency in the northwestern section, with Dr. Henry M. Fitzhugh in charge and Dr. Katie De Sales Kelley, assistant.——Drs. H. M. Baxley, L. E. Beach and Edward E. Mackenzie have been elected physicians to the Baltimore General Dispensary.

**Statistics of Tuberculosis.**—The statistics of tuberculosis prepared for the exposition to be held January 25-31, show some interesting and startling facts. The death rate from tuberculosis per 10,000 of the population is 20 for whites and 40 for the colored race in Baltimore, and in the rest of the state 12 for whites and 29 for colored. One in every 10 deaths among the whites is due to consumption, and one in every 6 or 7 among the colored is due to the same cause. The following is the order of mortality from tuberculosis: District of Columbia, 30.52 per 10,000 population; Rhode Island, 19.53; New York, 19.41; Massachusetts, 18.62; New Jersey, 18.01; Maryland, 16.94; Connecticut, 16.83; Maine, 16.49; Vermont, 15.25; New Hampshire, 15.23. The exposition will open with a public meeting, January 25, and addresses by the governor, late governor, mayor, secretary of the State Board of Health, and president of the commission. Mr. Frederick Hoffman, secretary of the Prudential Life Insurance Company of Newark, N. J., will also speak on "Statistical Laws of Tuberculosis." A public meeting will be held daily at 5 p. m.

## MICHIGAN.

**Schools Closed.**—At Ovid, scarlet fever is so prevalent that it has become necessary to close the schools.

**Personal.**—Dr. Samuel Schultz has been appointed health officer of Coldwater, vice Dr. Daniel D. Cunningham, deceased.

**Smallpox.**—Osceola County has 28 persons in quarantine.——Marshall has 8 cases and individuals under surveillance.——In Covert there are 10 cases, and many families in quarantine.——A case is reported at Muskegon.

**Prevalence of Disease.**—Reports to the State Board of Health from representative general practitioners throughout the state show that the chief diseases in order of prevalence for December were as follows: Rheumatism, bronchitis, neuralgia, tonsillitis, influenza, nephritis, tuberculosis, pleurisy, pneumonia, typhoid fever, diarrhea and scarlet fever.

**Comparative Morbidity.**—For December, 1903, compared with the average for December in the last ten years, inflammation of kidney, typhoid fever, scarlet fever, smallpox, meningitis, and cholera infantum were more than usually prevalent, and diarrhea, erysipelas, intermittent fever, inflammation of bowels, measles, remittent fever, whooping cough, inflammation of brain, puerperal fever and cholera morbus were less than usually prevalent.

**The Most Dangerous Communicable Diseases.**—Meningitis was reported present in Michigan during December at 9 places, whooping cough at 19 places, measles at 62 places, smallpox at 90 places, diphtheria at 100 places, typhoid fever at 117 places, scarlet fever at 172 places and consumption at 201 places. Meningitis was reported present at 5 places more, whooping cough at 3 places more, measles 31 places more, smallpox 37 places more, typhoid fever at 37 places less, diphtheria at 20 places more, scarlet fever at 50 places more, and consumption at 8 places more than in the preceding month.

**December Mortality.**—There were 2,942 deaths returned to the department of state for December, or 319 more than reported for the previous month. The death rate was 14.1 per 1,000 population, as compared with 12.9 for November. There were 490 deaths of infants under 1 year, 191 deaths of children aged 1 to 4 years, and 944 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 191; typhoid fever, 48; diphtheria, 96; scarlet fever, 17; measles, 16; whooping cough, 23; pneumonia, 376; influenza, 49; cancer, 151; accidents and violence, 182. There was a decrease in the number of deaths reported from typhoid fever, and the usual seasonal increase in deaths from pneumonia and influenza. There were no deaths from smallpox during the month. One death from chicken-pox was reported.

## MINNESOTA.

**Quarantine Lifted.**—The Duluth Board of Health has issued orders allowing 23 children under quarantine for diphtheria or scarlet fever to resume attendance at school.

**Personal.**—Dr. Llewellyn D. Peck, health officer of Hastings, has been elected physician for Dakota County.——Dr. Harry W. Darby, Minneapolis, has sailed for Europe.

**Crusade Against Spitting.**—The campaign against spitters began in earnest in St. Paul, January 15. Spitters were forced by health officers to take out their handkerchiefs and mop the sidewalks they had befouled. On January 18 the inspectors began to arrest offenders. Health Commissioner Ohage is taking a wide interest in the campaign.

**Regulation of Tuberculosis.**—The assembly committee on streets has ordered a favorable report on Dr. E. H. Whitcomb's ordinance for the regulation and prevention of tuberculosis in St. Paul. Dr. H. M. Bracken, secretary of the State Board of Health, urged the adoption of the ordinance on the ground that under its provisions the city health department will be able to keep a record of tuberculosis cases, and to prevent infection by requiring vacated premises to be disinfected. The ordinance declares tuberculosis an infectious and communicable disease and requires reports to the health commissioner from physicians and managers of hospitals of all cases coming under their observation. In case a tuberculous patient vacates a residence, the owner of the premises is required to disinfect the same under direction of the health department. Should the owner fail to comply with this provision the health commissioner is directed, after 36 hours' notice, to placard the premises as unhealthful and unfit for occupancy.

## NEW JERSEY.

**Circus Aids Hospital.**—The amateur and professional circus in aid of St. Joseph's Hospital, Paterson, netted $1,500 to the institution.

**Anti-Vaccinationist Has Smallpox.**—Dr. Allen S. Ironside, Camden, prominent as an opponent of vaccination, is ill with smallpox, and is under quarantine at his home.

**Barker Memorial Unveiled.**—The memorial tablet to the late Dr. Phanett C. Barker was unveiled, January 11, at the Barker Pavilion for Contagious Diseases of the Memorial Hospital, Morristown.

**Want Health Board of Physicians.**—The Practitioners' Club of Jersey City announces that it is about to start a movement for a new board of health, composed entirely of physicians.——The Passaic Medical Society has passed resolutions asking the mayor-elect to appoint physicians as members of the board of health.

**Society Election.**—At the annual meeting of the Atlantic County Medical Society the following officers were elected: President, Dr. Theodore Senseman, Atlantic City; vice-president, Dr. Edmund A. Madden, Absecon; secretary-treasurer, Dr. Edward Guion; reporter, Dr. A. Burton Shimer; board of censors, Drs. Edward A. Reiley, Edwin H. Harvey, and William M. Pollard; delegates, Drs. Elisha C. Chew and J. C. Marshall, and alternates, Drs. Wait P. Conaway and M. LeRoy Somers, all of Atlantic City.

## NEW YORK.

**Bequest to Medical College.**—By the will of former congressman James J. Belden, Syracuse, $50,000 is devised to the College of Medicine of Syracuse University.

**Tuberculosis Pavilion at State Hospital.**—The State Lunacy Commission will erect a pavilion for the care of patients afflicted with tuberculosis on the grounds of the St. Lawrence State Hospital, Ogdensburgh. For that purpose $30,000 has been appropriated.

**Medical Society of the State of New York.**—The ninety-eighth annual meeting of this society will be held in Albany, January 26, 27 and 28. Especial interest is centered in this meeting, owing to the fact that final action is expected to be taken in the matter of the combination of the two state medical organizations.

**Personal.**—Dr. Donald L. Ross has resigned his position on the staff of the Willard State Hospital, and has accepted the position of first assistant physician at the Craig Colony, Sonyea.——Dr. Newell E. Landon, Newark, recently suffered severe injuries in a runaway accident.——Dr. J. Wilson Poucher has been appointed surgeon of the Fifteenth Separate Company, N. G., N. Y., Poughkeepsie, vice Dr. John A. Card, resigned.——Dr. H. Wardner Eggleston, of the staff of the Binghamton State Hospital, has been made first assistant physician, vice Dr. William A. White, resigned.

**The Smallpox Situation.**—The state health department has issued a bulletin showing that new cases of smallpox have appeared during the past week in the following places in the state; Salamanca and West Salamanca, Cattaraugus County; Plattsburg, Clinton County: Cambria, Niagara County, and Massena, St. Lawrence County. The epidemic which has prevailed extensively in the villages of Medina appears to have abated.——A case of smallpox has appeared at Wells College, Aurora, and the college has been quarantined.——At Lockport the places of public gatherings have been closed, even including a cessation of distribution of books by the public library. Fifteen actual or suspected cases have resulted in the sending to Lockport of the secretary of the state health department, Dr. W. E. Johnson, to assist the local authorities in combating the disease.

### *Buffalo.*

**Charity Ball a Success.**—The charity ball which was given for the benefit of the German Hospital was a pronounced success, and will net the hospital between $1,200 and $1,500.

**Smallpox.**—At the present time 16 cases have been reported in this city. They are located in the tenderloin districts, which makes it difficult for the health authorities to control. In one case smallpox was found in a waiter in a cheap restaurant, who was waiting on 200 persons.

**December Deaths.**—The monthly report of the department of health for December shows a death rate of 14.77 per 1,000. The principal causes of death were as follows: Consumption, 34; cerebrospinal meningitis, 7; diphtheria, 10; typhoid fever, 10; cancer, 22; apoplexy, 23; meningitis, 11; valvular disease of the heart, 23; bronchitis, 12; pneumonia, 53; nephritis, 26; diabetes, 7; violence, 42. The total deaths for the month were 468, as compared to 503 in December, 1902.

**Medical Society of the County of Erie.**—At the eighty-third annual meeting held in Buffalo, January 12, Dr. William C. Krauss was elected president; Dr. Franklin C. Gram, secretary, and Dr. Edward Clark, treasurer. The society condemned Mayor Knight's efforts to send all the sick poor to the County Hospital. Memorials for deceased members were presented as follows: Dr. Herman Mynter, by Dr. Henry R. Hopkins; Dr. Herbert Mickle, by Dr. W. Scott Renner; Dr. William H. Jackson, by Dr. Alvin A. Hubbell; Dr. Byron H. Daggett, by Dr. Nelson W. Wilson.

**Annual Death Rate.**—The annual report of the Bureau of Vital Statistics shows the average death rate for the year to have been 14.95 per 1,000. The total number of deaths for the year was 5,681. The death rate of 1902 was 13.70; for 1901 it was 14.68; for 1900, 14.19; for 1899, 12.59; for 1898, 12.25; for 1897, 12.42; for 1896, 12.72; for 1895, 13.95; for 1894, 16.76; for 1893, 19.03; for 1892, 19.98; for 1891, 23.47, and for 1881, 25.72. During the past year the month of greatest mortality was August, and the next highest month was July. There were 525 more deaths among males than among females.

**Personal.**—Dr. Floyd S. Crego, formerly chief surgeon of the Fourth Brigade, N. G., N. Y., gave a dinner at the Buffalo Club to the officers of the brigade on his retirement. Among the invited guests were Drs. Charles G. Stockton and Roswell Park.——Dr. Charles Vaux has been appointed junior assistant physician at the Manhattan State Hospital.——The officers elected for the German Hospital Dispensary were the following: President, Dr. Alois Jokl; vice-president, Dr. Charles Durand, and secretary-treasurer, Dr. Adolph Urban.——Dr. Henry D. Ingraham is ill and confined to his home.——Dr. Edward J. Meyer has gone south for his health.

**Morbidity and Mortality of 1903.**—During 1903 there were 351 cases of typhoid fever reported, with a mortality of 133. There were 471 deaths from consumption. The discovery of antitoxin has had a wonderful effect on the mortality from diphtheria; there were 794 cases reported, with 110 deaths. Of 465 cases of scarlet fever reported there were but 26 deaths. There were 533 cases of measles reported, with 37 deaths. With cholera infantum but one case was reported earlier than May. The month of greatest mortality was August. The dissemination of pamphlets instructing the mothers how to treat such cases has resulted in a marvelous decrease in the death rate. In 1901 the number of deaths was 186, in 1902 it was 141, and last year the number was still further reduced to 121.

**Would Send Sick Poor to County Hospital.**—Mayor Knight has drafted a bill to empower the overseer of the poor, a city official, to send poor cases to the County Hospital. At present the superintendent of the poor, a county official, is the only person clothed with such authority. During the fiscal year 1901 more than $50,000 was paid to private hospitals for city cases, and the year following the amount increased to $70,000. Mayor Knight believes that many of these cases should be sent to the County Hospital when the city pays 85 per cent. of the expenses of that institution. The city hospitals are protesting against the measure. There are six or eight hospitals in Buffalo to which ward patients may be sent on city orders, and where a sum must be contributed by public charities in excess of the per capita allowance of the city. It is said that many poor patients, rather than be stigmatized as paupers by being sent to the County Hospital, will not seek aid at all. The hospitals which Mayor Knight designates as private hospitals state that they are not such in fact, but are public hospitals, maintained by public charities, of which the city must bear its proper share.

### New York City.

**Spitters Arrested.**—On January 12 the police arrested ten persons for spitting in violation of the sanitary regulations. Of the defandants, 7 were fined $1 each, and 3 were discharged.

**New Hospital.**—Mrs. J. Hood Wright, widow of the founder of the J. Hood Wright Hospital, has announced that she contemplated building, at a cost of $2,000,000, a new hospital in memory of her husband, to take the place of the present one, which lies in a hollow.

**To Advise Board of Health.**—Former Health Commissioners Ernest J. Lederle and Charles F. Chandler have been appointed consulting sanitarians of the present board and will also sit as members of the advisory board. These positions are purely honorary, with no salary attached.

**Money for Hospitals.**—The German Hospital received $4,500, the net receipts of the benefit opera performances held in November last.——The Post-Graduate Hospital has been paid a legacy of $5,000, bequeathed by Mrs. Samuel Colman to endow a bed in the babies' wards of the hospital.

**Hospital Jubilee.**—The New York Infirmary for Women and Children, which was founded in 1853 by Dr. Elizabeth Blackwell, celebrated its fiftieth anniversary, January 16, at the Waldorf-Astoria. Dr. William H. Welch, Baltimore, and Miss M. Carey Thomas, president of Bryn Mawr College, were among the speakers.

**Need Ten-Million-Dollar Endowment.**—The annual reports of twenty hospitals in the city show a total deficit at the close of the fiscal year of $432,368.78. In the judgment of those who have studied this subject most carefully, it needs an endowment of not less than $10,000,000, securely invested, to yield the revenues required to make up the present annual deficit of the New York hospitals.

**Personal.**—Dr. Patrick J. Murray, the new health officer of Brooklyn, has reported for duty.——Dr. Russell Bellamy has been commissioned captain and assistant surgeon of Squadron "A," N. G., N. Y.——Dr. Ellen L. Lowell has been appointed chief bacteriologist at the Graves Pathological Laboratory of the Orange (N. J.) Memorial Hospital.——Dr. Arthur J. O'Leary has been appointed visiting physician to Manhattan College, vice Dr. Cornelius M. O'Leary, deceased.

**Wage War on Pneumonia.**—Vigorous measures to check the epidemic of pneumonia will promptly be taken by the health authorities as a result of a meeting held January 12 by Dr. Thomas Darlington, the new commissioner, and the members of the advisory board of the department. In the last five weeks of 1903 there were 889 deaths in Manhattan alone from this cause, as against 586 for the corresponding period of the previous year. Several methods of action were chosen as a beginning of the work. These include the cleaning of all public buildings, including school-houses, a rigid enforcement of the law requiring the cleaning of sidewalks from snow and slush, insisting on the proper heating and ventilation of street cars, surface and elevated, and the enforcement of the prohibition against expectoration on the sidewalks, or anywhere else where infection may be caused.

## PENNSYLVANIA.

**Typhoid at Kittanning.**—It is reported that there are now 100 cases of typhoid fever at Kittanning, and that the disease is spreading rapidly.

**Petition Denied.**—In the United States Circuit Court, January 4, Dr. Susan J. Tabor was refused a new trial in her suit against the Norristown State Hospital to recover $2,072.50 for salary alleged to be due her.

**Guilty on Two Counts.**—Dr. Robert H. Gilliford, Allegheny, charged by another physician of the city with felonious assault, carrying concealed weapons, and pointing firearms, was found guilty on the two latter counts, the jury recommending him to the extreme mercy of the court on the last count.

**Personal.**—Dr. Milton A. Robison, after 20 years of practice in Hazelton, retired from practice January 1.——Dr. Edward R. Myers, Pittston, has been appointed a resident physician of the Harrisburg Hospital, vice Dr. John A. Sherger, resigned.——Dr. Charles A. Arnold, Allegheny, was seriously burned in a natural gas explosion at his residence, December 31.——Dr. J. D. Kramer has succeeded Dr. Horace F. Taylor as resident physician at the Chester Hospital.

**Smallpox Closes Schools.**—By order of the State Board of Health all the schools in three townships, Morris, Center and Rich Hill, in Greene County, and two adjoining townships, East and West Finley, in Washington County, have been closed indefinitely on account of smallpox. An epidemic of smallpox is raging in the border townships. The authorities of Luzerne borough, frightened by an outbreak of smallpox there have issued orders that all schools, churches, dance halls, places of amusement and public places be closed for fifteen days, in the effort to prevent the disease spreading.

**The Butler Typhoid Epidemic.**—The epidemic of typhoid fever at Butler seems to have practically run its course. The census conducted under the auspices of the Pennsylvania State Board of Health was completed January 5, and showed that up to that date there had been 1,316 cases and 84 deaths. Deaths occurring in other towns attributable to infection in Butler bring the total number of deaths up to 95. The number of deaths from typhoid fever at Butler up to January 15 reached a total of 101. A very few new cases continue to be reported. The officials of the State Board of Health in charge of the local situation state that they have obtained information regarding the existence of no fewer than seventeen cases of typhoid fever on the watershed of the contaminated creek during the summer and fall of 1903. The relief committee has issued the statement that the funds now in hand are sufficient for the prospective needs and that no more outside assistance will be necessary; it has also expressed public thanks for the generous assistance rendered by physicians, nurses and the general public. The total amount of money received is between $50,000 and $55,000, and a surplus of about $10,000 still remains.

### Philadelphia.

**The New Municipal Hospital.**—Plans have been completed by the Department of Health for the heat and power plant of the new Municipal Hospital, to cost about $125,000. The buildings have been erected and partitioning into wards has begun.

**Bequests to Hospital and College.**—By the will of the late Henry B. Ashmead, a printer, his estate, valued at $500,000, reverts to the Episcopal Hospital, as a memorial to his widow, after her death and that of her daughter.——Louis C. Vanuxem, whose estate is valued at over a million dollars, bequeathed $25,000 each to Princeton University, of which he was an alumnus, and to Jefferson Medical College, of which he was a trustee.

**Death and Disease.**—For the week ended January 16, the deaths numbered 736, the highest death rate for any week in three years. Soft coal smoke, but especially slush and cold, are responsible for much sickness. Deaths from diseases of the respiratory passages, aside from phthisis, numbered 188. There was considerable decrease in the number of new cases of smallpox and typhoid fever, there being 58 of the former and 89 of the latter.

**Club Elects Officers.**—At the annual meeting of the Medical Club of Philadelphia, held January 15, the following officers were chosen: President, Dr. Edward E. Montgomery (re-elected); vice-presidents, Drs. Roland G. Curtin and Wharton Sinkler; secretary, Dr. J. Gurney Taylor; treasurer, Dr. F. Savary Pearce; member of the board of governors, to serve five years, Dr. Edward L. Duer, and additional members of the executive committee, Drs. Hobart A. Hare, Ernest Laplace, Alexander McAlister, Walter L. Pyle, and William H. Warder. The retiring secretary, Dr. Guy Hinsdale, who had served for the past five years, was given a loving cup. Dr. Hinsdale will go, February 1, to Hot Springs, Virginia, to practice.—The presentation was made on behalf of the club by Dr. T. Chalmers Fulton. The club has now a membership of 575 and encourages hospitality and good fellowship.

**Mortality and Morbidity of 1903.**—The annual report of the Bureau of Health for 1903 shows the death rate to have been 18.82 per 1,000 of population. This is higher than for 1902, the rate then being 17.67. The rate is the lowest, however, with three other exceptions since 1879. The total number of deaths for the year was 25,947, as compared with 23.847 for the previous year. There was a large increase in deaths from typhoid fever, there being 585 in 1902 and 957 last year. The greatest number of deaths from a single disease was from pneumonia, 3.180, as compared with 2,976 for the previous year. Tuberculosis deaths numbered 3,053, an increase of 208 cases over last year. Deaths from smallpox numbered 278, 47 more than in 1902. Cases of contagious diseases for the two years were as follows:

| | 1902. | 1903. |
|---|---|---|
| Scarlet fever.......... .. ...... | 3 161 | 3.200 |
| Diphtheria .................... | 2.444 | 3 043 |
| Typhoid fever.................. | 5.006 | 8.650 |
| Smallpox ...................... | 1,342 | 1,637 |

## TEXAS.

***New Secretary of State Association.***—Dr. John T. Moore, Galveston, has been appointed secretary of the Texas State Medical Association, to fill the unexpired term of Dr. H. A. West, who recently died.

## GENERAL.

**Medical Clerks Wanted.**—The United States Civil Service Commission will hold examinations, Feb. 17-18, 1904, in various prominent cities to fill eighteen vacancies in the position of copyist (male), at $900 per annum, in the Bureau of Pensions, and other similar vacancies as they may occur. The examination will consist of the following subjects:

1. Letter-writing (a letter of not less than 150 words on some subject of general interest. Competitors will be permitted to select one of two subjects given).
2. Penmanship (the handwriting of the competitor in the subject of copying will be considered with special reference to the elements of legibility, rapidity, neatness, general appearance, etc ).
3. Copying (a test consisting of two exercises—the first to be an exact copy of the matter given, and the second to be the writing of a smooth copy of rough draft manuscript, including correction of all errors of spelling, capitalization, syntax, etc.).
4. Anatomy and physiology.
5. Diagnosis.
6. General and special pathology.
7. Surgery and surgical pathology.

The age limit is 25 to 30 years, and only graduates of recognized medical schools will be examined. This examination is open to all citizens of the United States who comply with the requirements. Persons who desire to compete should at once apply, either to the United States Civil Service Commission, Washington, D. C., or to the secretary of any local board of civil service examiners, for application Form 1,312, which should be properly executed and filed with the commission at Washington.

## CANADA.

**The Typhoid Situation in Montreal.**—Several more cases of typhoid fever developed in Westmount, one of the suburbs of Montreal, during the past week, and in St. Henri, the situation continues very grave. There are still 30 cases in the Montreal General Hospital; at the Royal Victoria, 45 cases, and at the Hotel Dieu, 25.

**Checking Consumption in British Columbia.**—The board of health of this province has decided to take vigorous action on tuberculosis. British Columbia is said to be one of the very few civilized communities of the world which has done almost nothing in the way of prevention of tuberculosis. A circular has been prepared for general distribution, and it is understood that the Canadian Pacific Railway will give $25,000 for the project. A British Columbia association for the prevention and cure of tuberculosis will be formed.

**Ontario Vital Statistics.**—In the annual report of the registrar general for Ontario, which is now being prepared for 1903, the conditions prevailing are generally satisfactory. There were 47,796 births reported as compared with 46,061 for 1901, an increase of 1,735, giving a general rate of 21.7 per cent. The birth rate in the cities is 22.2, or 0.5 higher than the general average. The marriages in Ontario were 18,072, compared with 18,035 in 1901, an increase of 37. The average for the province is 8.2, but in the cities alone it is 12.2, and in the towns, 12.8. The effect of the elopements from Detroit is shown in the high rate of Essex County, which is 26.7. The total number of deaths was 27,864, as compared with 29,608, giving a rate of 12.6, compared with 13.6 for 1901. The high average of health in Ontario is shown by comparison with other countries. In the United Kingdom it is 17.1; in Norway, 14.9; Austria, 24.2; Switzerland, 18.0; German Empire, 20.7; Quebec, 19.9. In Toronto the rate is 15.4; in Hamilton, 14.6; in London, Ont., 15.2; in New York, 20.57. The details for 1902 show a remarkable decrease from contagious diseases, which were 1,944, as compared with 2,590 in 1901. The deaths from tuberculosis also show a continued decrease, having fallen from 127.8 in 1898 to 90.6 in 1902.

## FOREIGN.

**Physicians for the Russian Trains.**—The Russian authorities are planning to have a medical attendant on each of the through Siberian trains.

**Prize for Inventor of Infiltration Anesthesia.**—The Würzburg University has bestowed the Rinecker prize of a silver medal and sum of $250 on Prof. C. L. Schleich of Berlin, as a token of appreciation of his method of infiltration anesthesia. His first publication on the subject was in 1894, when he published "Painless Operations," which has passed through many editions since.

**Typhoid Bounty.**—The city council of the French city of Rouen has adopted the plan of offering a prize of $2 to the first person who notifies the authorities of a case of typhoid fever. A sum of $4 will likewise be paid to the family if they agree to follow the directions of the board of health in regard to disinfection, etc. When the city council adopted the above typhoid bounty plan the only two dissenting votes were those of the two physicians who serve as members of the council.

**French Climatotherapy Congress.**—A congress has been organized to meet at Nice, April 4 to 9, 1904. Professor Chantemesse has been appointed president and the executive committee also includes Rénaut of Lyons, Grasset of Montpellier, Calmette of Lille and Balestre of Nice. The general secretary is Dr. Hérard de Bessé, 5 Boulevard Central, Beaulieu-sur-mer, France. Addresses will be delivered on the "Climate of the French Mediterranean Coast," "Adaptation of the Individual to the Climate," "Influence of this Coast Climate on Tubercular Patients," "Influence on Rheumatism and Those Subject to Rheumatism," and on "Disinfection of Towns."

**Antimalaria Education of the Public.**—The two physicians who are the moving spirits in the "Ligue contre le Paludisme," founded last spring at Alger in Algeria, have issued a small pamphlet in which is described in popular style the recent acquisitions to our knowledge of the transmission of malaria by mosquitoes. They summarize the deductions in the two desiderata: "Prevent man from being bitten by contaminated mosquitoes," and "Prevent the anopheles from biting contaminated human beings." The various means by which this can be accomplished are portrayed by pictured and simple descriptions. In conclusion the pamphlet contains a few simple rules of general hygiene. The benefits of this plan of educating the public have already become apparent in this French colony.

## LONDON LETTER.

### Shellfish and Sewage.

Outbreaks of typhoid fever due to sewage-contaminated shellfish have recently been described in THE JOURNAL. The Royal Commission on Sewage Disposal, which has been inquiring into the subject for the last 3 years, has just issued a report. The commission has had little difficulty in concluding that shellfish contaminated by sewage may produce typhoid fever and other illnesses. Dr. Newsholme, health officer for Brighton, declared that 37 per cent. of the typhoid fever in that town from 1894 to 1902 were due to shellfish, and other health officers gave similar evidence for Manchester, Yarmouth and Southend. The commission recommends that tidal waters be placed under the jurisdiction of a competent authority empowered to prevent the taking of shellfish for consumption from any position in which they are liable to dangerous contamination and to enforce restrictions as regards waters, foreshores, pits, ponds, beds and layings in which shellfish are fattened or stored. New legislation will be necessary to prevent seaside towns discharging their sewage in such a way into the ocean as to pollute shellfish used for edible purposes.

### The Cooking of Shellfish.

Some experiments carried out by the Fishmongers' Company on the cooking of the smaller shellfish are of interest in connection with the scare raised by sewage-contaminated shellfish. Dr. Klein, bacteriologic adviser to the company, has proved that the usual method of cooking only amounts to scalding and can not be relied on to sterilize the fish. The live fish with shells tightly closed are held in a net and plunged into boiling water. The immersion of the cold mass lowers the temperature, and when, in two or three minutes, the water begins to boil again the net is lifted out. Fish that had been kept in typhoid-polluted water so treated were found to be swarming with typhoid bacilli. Prolonged boiling would no doubt be effective, but it spoils the fish for sale. Dr. Klein then suggested that cooking by steam, in consequence of its greater penetrative power, might be an efficient sterilizer and not spoil the fish as food. Two batches of cockles and mussels were cooked in a steamer for five and ten minutes. The results were: mussels spoilt and useless for sale; cockles all right in upper layers, but bottom layer overcooked. The mussels cooked for five minutes were all right, and the cockles better than the ten minutes' batch, but the bottom layer was somewhat overcooked. In all cases the cockles were sterile; the mussels were sterile except those on the top steamed for five minutes, some of which retained living spores. It is probable that if exposed to the more direct action of the steam the mussels could be completely sterilized in five minutes. As a result of these experiments the Fishmongers' Company has strongly recommended steaming to the trade.

## Correspondence.

### Opticians: An Appeal to the Medical Profession.

NEW YORK CITY, Jan. 16, 1904.

*To the Editor:*—An optical society, composed of so-called "refracting opticians," has issued a circular letter to the medical profession, asking for the endorsement of a bill about to be introduced in the legislature, legalizing the "practice of optometry."

This measure is not a new thing; we have met it several times in the past, and it has only been necessary to expose its pernicious features to defeat it. It will be necessary to do this again and again until the public awakens to the fact that measures such as this are only the efforts of incompetent people to evade the medical laws in order that they may prey on the community without fear of molestation, and then suitable provisions will be made to suppress them.

It is to be hoped that members of the medical profession will not be influenced by the specious arguments of these opticians to give them any encouragement or endorsement; for any success they may attain will be the signal for a host of osteopaths and other peculiar people to ask for similar privileges. There are no good reasons why opticians should be granted any special privileges. They undertake to do a work which they are not in any way qualified to undertake, and there is no doubt, in the minds of those who are competent to judge, that they do incalculable harm and injury. They, in common with all others who treat physical defects and infirmities, should have a medical education before they are allowed to go before the public as competent to do the work that they pretend to be able to do. It can not be expected that future physicians will be willing to undertake a course of studies to prepare themselves for the work of caring for the sick and physically defective. if, when they have fulfilled all the legal requirements, they find themselves obliged to compete with others who have received almost identical rights and privileges with practically no preparation. If medical laws are necessary to the proper protection of the community, they should apply equally to all who make a business of advising or treating people, regardless of the disease or defect from which they suffer, or of the methods or measures employed. It is impossible for the state to discriminate between physicians, opticians, and the various "pathies" without injury to the cause of professional elevation. A single standard must be created for all, and with its requirements all should comply.

The committee on legislation of the Medical Society of the State of New York has fought these legislative battles successfully in the past and will continue to do so if the profession will back us as it always has. The members of the legislature have no knowledge of the merits of this and similar measures, and look to the medical profession for advice and guidance. The legislature is made up of fair-minded, intelligent and loyal citizens; and when pernicious laws affecting the public health are enacted, it is, as a rule, because citizens who are not members of the legislature neglect to do their duty. We urge the members of the medical profession resolutely to oppose this "Optometry Bill," and its defeat is assured.

FRANK VAN FLEET, Chairman,
Committee on Legislation, Medical Society of the State of New York.
60 East 77th Street, New York City.

### Tuberculosis in Prisons.

ST. PAUL, Jan. 14, 1904.

*To the Editor:*—In an editorial, January 2 (p. 36), you draw attention to the fact that New York State has led the way in providing the first isolation wards for the treatment of tuberculous prisoners. You do not mention the date of such action, but I presume it was recent. If so, New York is not the first state to make such provision for prisoners.

Dr. B. J. Merrill, physician in charge of the prison at Stillwater, Minn., established the system of isolation, special diet, etc., at that institution in the summer of 1894. He set aside a group of cells that came to be known, in prison parlance, as "Tuberculous Row." With any symptoms of tuberculosis showing, a prisoner was subjected to a careful examination, physical and bacteriologic, and if the presence of the disease was established he was at once placed in a cell in the "Tuberculous Row." This does not mean that he was placed in an infected cell; quite the reverse, for these cells and their contents received special attention, and all bedding and clothing were disinfected and laundered separately. Special diet was given. The prisoner was required to spit into a spit cup containing a disinfectant, and special care was given to the daily cleansing of the cell. If able to work, he was assigned a task in the open air. This custom has been continued to the present time under Dr. Merrill's supervision.

In 1897 Dr. Merrill informed me that since the above method of isolation went into effect, in 1894, there has been a decrease of 52 per cent. in the number of cases of tuberculosis. At that time (October, 1897) in this prison of 493 convicts there were only 6 who were tuberculous.

At present (Jan. 12, 1904) there are 6 tuberculous patients at Stillwater out of 630, and these were tuberculous when they entered the prison. All have improved since admission. All are kept in the open air as much as possible, and all are on a special hospital diet.

I think Dr. Merrill was the pioneer in this work.

H. M. BRACKEN,
Secretary Minnesota State Board of Health.

### Offensive Commercialism.

CHICAGO, January 16, 1904.

*To the Editor:*—A few days ago I received through the mail an advertising circular from the Colorado Lithia Water Company, 167 East Van Buren Street, Chicago, and accompanying it and enclosed was a slip of pink paper neatly folded and marked "Personal." I enclose this slip and request that you publish it in THE JOURNAL as an example of an offensive commercialism of which the entire profession must disapprove.

ARTHUR R. ELLIOTT.

The slip referred to reads as follows:

"We will pay you $1.00 for each customer sent us or prescription ordering case or demijohn of water. (See priced card.) Cash sent you at once.

"COLORADO LITHIA WATER CO."

### Prevention of Typhoid Fever.

Cody, Neb., Jan. 12, 1904.

*To the Editor:*—In reading the excellent paper and discussion in the last issue of The Journal, on prevention of typhoid, I wish to add the boiling as well as scalding of all dishes and tableware. In this remote, ranching, watershed locality typhoid is commencing to occur (imported). Hotel knives and forks, etc., seem conveyors from transients to residents. Cases guarded as above with, of course, other precautions, have been limited to one in a family, while those not under such care have spread. T. F. Campbell, M.D.

## Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

### LITERATURE ON ILLEGITIMACY.

Detroit, Jan. 11, 1904.

*To the Editor:*—I am desirous of consulting what literature there is available on the subject of illegitimacy or bastardism. Can you refer me to any material? J. E. D.

Answer.—The medical aspects are well discussed from one point of view in articles by Dr. Hastings H. Hart, entitled "The Physician and the Illegitimate Child," *Illinois Medical Journal*, August, 1902, and the "Illegitimate Child in Chicago," *Chicago Medical Recorder*, March 15, 1903. Another aspect of the case was discussed with considerable wealth of historical references by Dr. E. C. Spitzka in a continued article in the *Alienist and Neurologist*, beginning April, 1901, entitled "The Legal Disabilities of the Natural Child," in which he takes a harsher view of the subject. The subject is one of sociologic rather than of medical import and more will probably be learned from sociologic than from medical literature at the present time.

### SMALLPOX AND CUBAN ITCH.

Trafford City, Pa., Jan. 12, 1904.

*To the Editor:*—Please describe the following diseases: Cuban itch, Porto Rico chicken-pox and several other diseases or names of supposed diseases. Are they distinct diseases or are they not mild forms of smallpox (varioloid, discrete smallpox)? Please give some reliable information on this subject or refer to some works. T.

Answer.—The disease called Cuban itch, Porto Rico chicken-pox, etc., is now generally recognized as a modified form of smallpox, capable, however, of propagating the severer form of the disease. In epidemics the severer type has been present in many cases. The subject was well discussed by Dr. James Nevins Hyde in a letter to the Illinois State Board of Health and published by that board in 1900. It is discussed by Drs. Bracken and Happel in papers in The Journal, Sept. 8, 1900, vol. xxxv, and also by others in this and various other medical journals.

## Marriages.

Charles C. Paxton, M.D., to Miss Louise Wegner, both of Archer, Neb., January 5.

Paul Frederic Martin, M.D., to Miss Edna Matilda Kuhn, both of Indianapolis, January 6.

Beverley W. Briscoe, M.D., Garrett, Md., to Miss Bertha K. Shertzer, at Baltimore, January 6.

Patrick M. O'Reilly, M.D., Newark, N. J., to Miss Mary Agnes Hardiman of Baltimore, January 6.

## Deaths.

**Benjamin H. Hartwell, M.D.** Jefferson Medical College, Philadelphia, 1868, a member of the American Medical Association; from 1871 to 1877, coroner of Middlesex County, Mass., and since the abolition of that office, one of the medical examiners for the county; a member of the legislature in 1888, and surgeon in the state militia for three years, died at his home in Ayer, January 6, from pneumonia, aged 58.

**Stuart H. Reed, M.D.** College of Physicians and Surgeons, New York, 1881, died at his residence in Madison, N. J., January 6, after an illness of less than one week, from pneumonia, aged 49. He was a member of New Jersey State Medical Society, Morris County District Medical Society, and Morristown Medical Club.

**James Francis Ferguson, M.D.** New York University, 1860, assistant surgeon Second New York State Militia, a prisoner in Libby Prison, afterward major and surgeon of the 165th New York Volunteer Infantry, died at his home in Central Valley, N. Y., January 6, from paralysis, after a long illness, aged 64.

**Harvey C. Fraker, M.D.** University of Wooster, Cleveland, 1873, professor of pathology in the Ohio Medical University, and city bacteriologist of Columbus, Ohio, died at his home in that city, January 9, from aneurism of the aorta, after a long illness, aged 53.

**Frederick H. Stahle, M.D.** Cooper Medical College, San Francisco, 1888, formerly superintendent of the City and County Hospital in that city, committed suicide by inhaling illuminating gas, at a lodging house in San Francisco, January 5, aged 41.

**Charles W. Bishop, M.D.** Bennett College of Eclectic Medicine and Surgery, Chicago, 1878, of Tinley Park, Ill., was caught between two street cars in Chicago, January 11, and sustained injuries from which he died on the same day.

**J. E. Pierce, M.D.** Central College of Physicians and Surgeons, Indianapolis, 1895, coroner of Henry County, Ind., died at his office in Middletown, January 9, from the effects of a self-inflicted gunshot wound of the head, aged 40.

**George Winslow Foster, M.D.** Medical School of Maine at Bowdoin College, Brunswick, 1871, a member of the Maine Medical Association, and superintendent of the Eastern Maine Insane Hospital, Bangor, died in that city, January 5, aged 58.

**Margaret P. Buckman, M.D.** Woman's Medical College of Pennsylvania, Philadelphia, 1884, died at her home in Trenton, N. J., January 7, from scarlet fever, contracted while caring for her eldest child, after an illness of four days, aged 42.

**Robert Emmet Young, M.D.** University of Pennsylvania, Philadelphia, 1871, first superintendent of the State Hospital for Insane, No. 3, Nevada, died at his home in Jefferson City, Mo., January 8, from pneumonia, aged 65.

**Henry A. Cohrs, M.D.** Long Island College Hospital, Brooklyn, 1892, was found dead in the drug store in Brooklyn, in which he was employed, January 9, aged 37. Death is supposed to have been due to heart disease.

**W. C. Fisher, M.D.** Atlanta College of Physicians and Surgeons, 1881, county physician of Fulton County, Ga., died at his home near Bolton, January 6, from pneumonia, after an illness of one week, aged 49.

**L. D. McKinley, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1885, formerly superintendent of the Topeka (Kan.) State Hospital, died at Marshall, Ind., January 1, aged 68.

**Joseph W. W. Marshall, M.D.** Medical College of the State of South Carolina, Charleston, 1846, once a member of the legislature, died at his home in Abbeville, January 6, aged 83.

**Henry B. Wiggs, M.D.** Memphis (Tenn.) Hospital Medical College, 1896, of Russellville, Ark., died at St. Vincent's Infirmary, Memphis, January 6, after a long illness, aged 67.

**Edward Luther Griggs, M.D.** Long Island College Hospital, Brooklyn, N. Y., 1864, was found dead in bed at his home in Waterbury, Conn., January 6, from heart disease, aged 65.

**Frank W. Shaw, M.D.** New York University, 1885, of Brooklyn, N. Y., died in Seney Hospital in that city, January 9, from the effects of an overdose of opium, aged 38.

**David S. Bowlby, M.D.** College of Physicians and Surgeons, New York, 1853, of Berlin, Ont., died from chronic bronchitis in Rome, Italy, December 31, after a long illness.

**William F. Lazelle, M.D.** University of Vermont, Burlington, 1857, of Plainfield, Vt., died at the home of his son in Barre, Vt., January 5, after a protracted illness, aged 68.

**Hiram Temple, M.D.** Berkshire Medical College, Pittsfield, Mass., 1865, died at his home in Charlemont, Mass., January 6, from pneumonia, aged 64.

**Cornelius E. Billington, M.D.** New York University, 1864, died at his home in New York City, January 8, after an illness of several weeks, aged 60.

**Charles G. Frowert, M.D.** University of Pennsylvania, Philadelphia, 1874, died suddenly at his home in Philadelphia, January 9, aged 53.

**Hiram W. Vail, M.D.** Cleveland Medical College, 1880, of Rogers, Ohio, died at Pittsburg, Pa., January 13, from heart disease, aged 58.

**Levi H. Fisher, M.D.** Tulane University, New Orleans, 1853, died from pneumonia at his home in Shreveport, La., January 9, aged 70.

**John C. Langford, M.D.** Medical College of Alabama, Mobile, 1893, of Morales, Texas, died January 4, from poison accidentally taken.

**John R. Boyd, M.D.**, formerly of Defiance, Iowa, died at his home in Cleveland, Ohio, January 5, from Bright's disease, aged 59.

**William P. Armstrong, M.D.** Homeopathic Hospital College, Cleveland, 1866, died at his home in Salina, Kan., January 6, aged 60.

**Frederick H. S. Ames, M.D.** Toronto University, 1880, died at his home in Denver, Colo., January 4, after a long illness, aged 45.

**James E. Golley, M.D.** College of Physicians, Baltimore, 1894, died at his home in Templeville, Md., January 6, from pneumonia.

**William E. Whitehead, M.D.** Medical College of Ohio, Cincinnati, 1878, died at his home in Brownstown, Ind., January 7.

**George P. Hackenberg, M.D.** New York University, 1851, died at his home near Austin, Texas, January 8, aged 80.

**Robert Lowry, Jr., M.D.** Louisville Medical College, 1887, died at his home in San Francisco, January 3, aged 40.

**Lewis R. Burns, M.D.** Castleton (Vt.) Medical College, 1847, died at his home in Toluca, Ill., December 30, aged 80.

**Mrs. M. M. Hatfield, M.D.** Homeopathic Hospital College, Cleveland, 1880, died in Denver, January 6.

### Deaths Abroad.

**John Knowsley Thornton, M.B., C.M.**, Edinburgh, 1871, died at his home, Hildersham Hall, Cambridgeshire, England, aged 59. He was one of the most famous and successful abdominal surgeons of Great Britain at the time of his retirements—because of failing health—from hospital practice in 1891 and from private practice in 1898. He was an ex-president of the Harveian Society; fellow and president of the Medical Society of London; fellow of the Royal Medical and Chirurgical Society; member of the Royal Medical Society of Edinburgh, Pathological Society of London, and British Medical Association, and was an honorary fellow of the American Gynecological Society and a corresponding fellow of the Boston Gynecological Society.

**Karl Emmert, M.D.**, professor emeritus of medical jurisprudence at Berne, died at his home, December 23, aged 92. His best-known work is a "Manual of Surgery," issued in 1850, and followed by frequent new editions and numerous works on his specialty.

**Karl Gebhard, M.D.**, professor of gynecology and obstetrics at Berlin, died, December 23, aged 42. He published, among others, a work on the pathologic anatomy of the female genitalia, and has been a frequent contributor to medical periodicals.

## Book Notices.

Hypnotism. Its History, Practice and Theory. By J. Milne Bramwell, M.B., C.M. Cloth. Pp. 477. Price, $4.50 net. Philadelphia: J. B. Lippincott Co. 1903.

The subject of hypnotism is one that is always of interest. It stands on the edge of the marvelous, and on what is often considered by the scientific physician as debatable ground. Dr. Bramwell is the leading English advocate of its utility in therapeutics, and he states his side of the question very ably in the book before us. We ourselves have not the full confidence in the method that he shows, but will admit that it has an occasional utility. Its applicability in general practice is, we think, somewhat doubtful, notwithstanding the remarkable results reported by the author. Dr. Bramwell goes over the history of hypnotism very fully, but it is remarkable that he should leave out so well known a writer as Beard, whose contributions, though not numerous, are yet sufficiently noteworthy to be mentioned. In fact, the history does not include the early American investigations of the subject, some of which were of value, though not always made by scientific men. In spite of its onesidedness the medical man who wishes to be informed on the subject of hypnotism will find this book very useful; in fact, it will be a profitable reference work for any neurologist or scientific physician.

Portfolio of Dermochromes. By Professor Jacobi of Freiburg in Breisgau. English Adaptation of Text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Part I. Half Leather. Price, $15 for Complete Work. London and New York: Rebman, Ltd. 1903.

This is intended especially for the general practitioner, who will find the illustrations in nearly every instance true to nature, although slightly overcolored in some instances. The more common cutaneous disorders have been selected for illustration and not the rare ones which are seldom seen and which are of special interest to the professional dermatologist alone. The diagnosis of skin diseases is usually a difficult problem for the average physician and no amount of descriptive text will take the place of a good picture if it is at all what it should be. The illustrations are from models and are reproduced in a four-color process called, according to the translator, citochromy, a process invented by Dr. Albert of Munich. There are nearly 100 illustrations in the volume before us. The work is not intended as a text-book, and is, therefore, not overburdened with text, although sufficient descriptive matter accompanies the illustrations to satisfy—the essential facts being presented in a condensed form. As a whole the book is a very satisfactory one, and is to be commended to those desiring an atlas on skin diseases.

Homophonic Conversations in English, German, French and Italian, Being a Natural Aid to the Memory in Learning Those Languages. By C. B. and C. V. Waite. Cloth. Pp. 137. Price, $1.00. Chicago: C. V. Waite & Co.

This is a convenient little chrestomathy for the German, French and Italian languages, covering the ordinary conversational expressions that are required by one traveling. The aim has been to make the spelling fairly phonetic in the three languages, employing nearly five hundred homophonic words which are also given in a complete alphabetical list at the end of the work.

## Association News.

**Place of Session of the American Medical Association for 1905.**—Attention is called to the action taken at the last session of the American Medical Association to the effect that any city wishing to invite the Association to meet at that place should present the invitation, together with all available facts concerning hotel accommodations, number and seating capacity of halls available for section meetings, intramural means of transportation, railroad facilities, etc., at least three months before the annual session of the preceding year. In accordance with the above, it is hoped that those cities which desire the Association in 1905 will send their invitations, with all information possible, on or before March 1, 1904.

M. L. Harris, M.D.,
Chairman Committee on Place of Session and Transportation,
100 State Street, Chicago.

## State Boards of Registration.

### COMING EXAMINATIONS.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

New York State Board of Regents, at New York, Albany, Syracuse and Buffalo, Jan. 26-29. Secretary, James Russell Parsons, State Capitol, Albany.

Nebraska State Board of Health, State House, Lincoln, Neb., Feb. 10-11. Secretary, George H. Brash, M.D., Beatrice.

Kansas Board of Medical Examiners, State House, Topeka, Feb. 12. Secretary, O. F. Lewis, M.D., Hepler.

**Nebraska Report.**—Dr. George H. Brash, Beatrice, secretary of the State Board of Health, reports the written examination held at Lincoln, Nov. 11-12, 1903. One applicant took the examination in 8 subjects, on which 80 questions were asked, and received a grade of 92. The percentage required to pass was 75. He was a graduate of Bellevue Hospital Medical College in 1903.

**Michigan Report.**—Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine reports the written examination held at Lansing, October 13-16, 1903; 10 applicants appeared, 7 passing; the number of subjects examined in was 19; total questions, 100; percentage required to pass, 75.

Exclusive of two undergraduates who failed, with grades of 73 and 70, the applicants were from the following colleges:

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Imperial Alexander Unive., Finland | (1896) | 87 |
| University of Toronto (two) | (1903) | 88, 87 |
| Royal Medical College, Kingston | (1890) | 88 |
| Trinity University, Toronto | (1884) | 91 |
| McGill University, Montreal | (1903) | 89 |
| Washington University, St. Louis | (1899) | 89 |

FAILED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Dartmouth Medical Coll., Hanover, N. H. | (1886) | 72 |

**Iowa October Report.**—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, reports that at the written examination held at Des Moines, October 21 and 22, 1903, out of 24 applicants, 12 passed. The subjects examined in numbered 8; total questions, 80; percentage required to pass, 75. The colleges represented, dates of graduation and grades attained are as follows:

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Coll. of P. and S., Chicago | (1902) 80, (1903) | 85 |
| Hahnemann Med. Coll., Chicago | (1903) | 78 |
| Iowa Coll. P. & S., Des Moines | (1903) | 75 |
| Hosp. Coll. Med., Louisville | (1903) | 82 |
| Jefferson Med. Coll., Philadelphia | (1902) | 83 |
| N. W. Univ., Chicago | (1903) | 87+ |
| Rush Med. Coll., Chicago | (1903) | 85+ 87 |
| Univ. Copenhagen | (1888) | 77+ |
| Univ. Edinburgh | (1903) | 91+ |
| Univ. Nebraska | (1903) | 90+ |

FAILED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Univ. Med. Coll., Kansas City, Mo. | (1902) 70, (1903) | 40+* |
| Iowa Coll. P.& S., Des Moines | (1902) | 34+ |
| Coll. P. & S., Kansas City, Kan. | (1900) | 59+ |
| St. Louis P. & S. | (1902) | 74+ |
| Chicago Hom. | (1903) | 72+ |
| Coll. P. & S., Chicago | (1899) | 66+ |
| Eclectic Med. Inst., Cinn. | (1903) | 64+* |
| Barnes, St. Louis | (1903) | 71+* |
| Omaha Med. Coll., Nebraska | (1903) | 70+* |
| Univ. of Nebraska | (1903) | 67+* |
| Rush Med. Coll., Chicago | (1900) | 67+† |

*Second Examination. †Fourth Examination.

The questions asked were as follows:

PRACTICE OF MEDICINE.

1. Is auto-infection a factor in the production of disease? Give example. 2. What is a zymotic disease? Give three examples. 3. On what symptoms would you base a diagnosis of typhoid fever? Give treatment, including diet. 4. Give symptoms and treatment of acute dysentery. 5. Give etiology and treatment of scarlet fever. 6. Give symptoms and treatment of cerebrospinal meningitis. 7. Give treatment and prognosis in erysipelas. 8. Give symptoms and treatment of spasmodic croup. 9. Give symptoms and treatment of acute catarrhal bronchitis in children. 10. What are the causes and give treatment of palpitation of the heart.

ECLECTIC PRACTICE.

1. How would you distinguish acute bronchitis from pneumonia? (b) Give the usual specific treatment for each. 2. Differentiate the classes of croup, and give a treatment for each. 3. Define hepatic colic, nephritic colic, lead colic, and uterine colic. Give brief treatment for each. 4. Mention the specific drugs useful in influenza with coryza, fever and muscular pains. 5. Write a prescription for cholera morbus. 6. Differentiate between varicella and variola discrete in first stages. 7. State the period of incubation of scarlet fever and measles: describe the character of the rash in each, and state when and where it first appears. 8 Describe (a) Bell's paralysis, (b) Cheyne-Stokes respiration. 9. Define neurasthenia and give etiology, symptomatology and treatment. 10. Give etiology, diagnosis and treatment of malarial fever.

HOMEOPATHIC PRACTICE.

1. Give pathology, symptoms and treatment of membranous croup. 2. Describe a case of scarlet fever with symptoms and course of disease. Give treatment for same. 3. How would you treat a case of carbolic acid poisoning? Name its best antidote. 4. What are the symptoms of renal colic? Give your treatment for same. 5. Give etiology, pathology, symptoms and treatme [illegible] Define hydrocephalus. Give your treatment and [illegible] etiology and treatment of eclampsia infantum [illegible] chicken-pox and smallpox, and give treatment [illegible] Give your treatment for cerebral apoplexy. 10 [illegible] means would be necessary to determine between "retention and suppression" of urine. Name remedy for each condition with indications for their use.

OBSTETRICS.

1. What are the conditions necessary to impregnation and the normal development of the ovum? 2. How does the impregnated ovum and the embyro receive the material needed for their development? Explain fully. 3. (a) Describe the changes that take place in the breasts as a result of pregnancy. (b) What disease of the breasts is most apt to follow labor and what prophylactic measures would you adopt to prevent it? 4. (a) What terms are used to denote an interrupted pregnancy and when applied? (b) What would you do to prevent the attendant dangers of an interrupted pregnancy? Explain in detail. 5. Give diagnosis, symptoms and treatment of eclampsia. 6. (a) What do you understand by the kidney pregnancy? (b) Give probable causes of the changes. (c) What symptoms and conditions are to be found in such cases? 7. Called to attend a primipara in labor, and finding head in pelvic cavity, presentation normal, os fully dilated, pains becoming weak and inefficient, and woman becoming exhausted; what would you do? Explain in detail. 8. Give etiology, symptoms, sequelæ and treatment of septic endometritis (non-specific). 9. Differentiate between "complete and incomplete" lacerations of the perineum. When should lacerations of the perineum be repaired? Why? 10. What is subinvolution? What are the conditions present? Give symptoms and treatment.

SURGERY.

1. Differentiate chancre, chancroid, and venereal warts, and give treatment for each. 2. How would you tell an empyemia from an ordinary case of pleurisy with serous effusion, and how would you treat each? 3. In what class of cases would you give ether, chloroform, bromid of ethyl, and why? 4. What are the danger signals in general anesthesia? 5. Give the general points of difference between malignant and non-malignant tumors. 6. Under what circumstances would you resort to plugging the posterior nares? (b) Describe the operation. 7. What are the general principles of antiseptic surgery, and what is the distinction between antiseptic and aseptic? (b) Name three of our best antiseptic agents. 8. Give the symptoms found in the unconsciousness of cranial trauma demanding prompt operative treatment. (b) Give differential diagnosis between coma due to brain concussion and alcoholism. 9. Give symptoms and treatment for fracture of lower end of the tibia. 10. What period of time is occupied by the various processes necessary for the repair of fracture? (b) What complications are common to all fractures? (c) In what fractures is the union ligamentous?

MATERIA MEDICA.

1. Give action and dose of creosote. 2. What drug would you recommend as a prompt emetic? State dose. 3. Give physiological action of digitalis. 4. Describe the effect of atropin. 5. Treatment of morphin poisoning. 6. Give local effect of tanic acid on mucous membranes. 7. Name and give doses of three cardiac stimulants. 8. Give physiologic action of the nitrates. 9. Define a diuretic; name three and give doses. 10. Give chief symptoms of poisoning by mercury.

HOMEOPATHIC MATERIA MEDICA.

1. What do you understand by modality. Give illustration. 2. In what type of amenorrhea would you use pulsatilla and on what symptoms would you prescribe it? 3. Differentiate between sanguinaria, bryonia and kali carb. in pleuropneumonia. 4. In typhoid fever what symptoms would indicate the exhibition of rhus. tox, of phosphorus, of arsen. 5. Differentiate between the headache of ipecac and iris. 6. State the difference between the gastric symptoms calling for kali. bichr. and lycopodium. 7. Give definite picture of toxic effects of terebinth on the urinary system. 8. What is macrotin. What its chief sphere of action and symptoms indicating its use. 9. Name three remedies you would use in cholera morbus with specific indication for the use of each.

ECLECTIC MATERIA MEDICA.

1. Change one drop, one dram, one ounce and one pint to metric system. 2. Name the most common diuretics, and describe their action. 3. What uses are made of permanganate of potassium. 4. Name the most common laxative, hydragog, saline and cholagog purgative and describe their action. 5. Grade the dose of remedies by the age of the patient. 6. Mention some of the specific glandular remedies. 7. From what is cocain obtained? State its therapeutic uses and give the dose. 8. What is a sedative? Name four of the most prominent. 9. From what is glycerin obtained? State some of the therapeutic uses of glycerin. 10. What are the chief preparations, doses, physiologic actions and therapeutic uses of digitalis?

CHEMISTRY.

1. How can magnesia be distinguished from starch? 2. State difference between sulphate and sulphite. 3. What is formed when phosphorus burns? 4. Give the essential properties of the element nitrogen. 5. How can calomel be distinguished from corrosive sublimate? 6. How could you prove the presence of arsenic? 7. Give chemical constitution of iodoform. 8. How can oxygen be obtained from oxid of mercury? 9. What is chloroform and how is it made? 10. How would you test for sugar and albumin in urine?

ANATOMY.

1. Locate the circle of Willis and make drawing of same, showing location and names of vessels composing it. 2. Give boundaries of the popliteal space and name coverings and contents. 3. Describe the shoulder joint and name its ligaments. 4. Name the several divisions of the small intestines. State names of coats, length, caliber and names of glands found in each division. 5. Name the muscles having their origin or insertion in whole or in part from the upper third of the humerus. 6. State the origin, foramen of exit course, distribution and function of the pneumogastric. 7. What is connective tissue? Name the various forms and describe each. 8. Differentiate between a direct and an indirect inguinal hernia. Give the coverings of each. 9. Locate the solar plexis and state what structures are in contact with it. 10. Describe the pancreas, giving a, location; b, shape; c, color, d, blood and nerve supply.

PHYSIOLOGY.

1. Name and describe three of the component parts of the blood. 2. How many coats have the veins and how do they differ from the coats of the arteries? 3. Give the size, weight, structure, location and function of the kidneys. 4. Describe a complete revolution of the heart. 5. How is nutritive material conveyed to the blood? 6 What agency has the pancreatic juice in the digestion of foods? 7. What is meant by the "greater" and "lesser" circulation? 8. What is osmosis? Where does it normally occur in the human organism? 9. What are the functions of the pneumogastric nerve? 10. Describe structure, origin, distribution and office of the portio mollis (8th pair cranial) nerves.

PATHOLOGY.

1. Give the pathology of vesicular emphysema and name the associating conditions of the heart and general circulation, and explain them. 2. (a) Name the pyogenic bacteria and the conditions that favor their development; (b) name ten pathogenic bacteria. 3. (a) Define immunity; (b) explain the humoral, (c) the phagocytic (d)

and the lateral or side chain theories of immunity. 4. Give the differential pathology of atrophic and hypertrophic cirrhoses of the liver and the relation that each bears to the production of jaundice, and to obstruction of the portal circulation. 5. What is phagocytosis, metaplasia, a toxin? 6. (*a*) Define gangrene. (*b*) Give the pathology of dry gangrene. (*c*) Give the pathology of moist gangrene. 7. Name the different tissue degenerations and give the pathology of each. 8. How would you demonstrate the presence of tubercular bacilli? 9. Give the pathology of interstitial nephritis. 10. What structures are formed from the epiblast, from the hypoblast, and from the mesoblast?

## The Public Service.

### Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Jan. 16, 1904:

Hutton, Paul C., asst.-surgeon, granted thirty days' leave on account of sickness.

Van Dusen, Jas. W., asst.-surgeon, relieved from Columbus Barracks, Ohio, and ordered to West Point, N. Y.

Stark, Alexander M., asst.-surgeon, relieved from duty at West Point, N. Y., and assigned to duty as assistant to the attending surgeon, Washington, D. C., until April 1, when he will assume the duties of attending surgeon.

Banister, Wm. B., surgeon, relieved from duty as attending surgeon, Washington, D. C., April 1, 1904, and ordered to Jefferson Barracks, Mo., for duty.

Brown, Henry L., contract surgeon, arrived at Columbus Barracks, Ohio, December 18, for temporary duty, and has since been relieved from further duty at Fort Sheridan, Ill., and assigned to permanent duty at Columbus Barracks.

Mabry, William C., contract surgeon, relieved from duty at Columbus Barracks, Ohio, and directed to proceed to Fort Sheridan, Ill., for duty.

Brewer, Isaac W., contract surgeon, reported at Whipple Barracks, Ariz., for temporary duty.

White, J. Samuel, contract surgeon, relieved from duty at Fort Yellowstone, Wyo., and assigned to duty at Fort Snelling, Minn.

Gregory, William G., contract surgeon, granted one month's leave of absence from Fort Apache, Ariz.

Macy, Fred S., contract surgeon, who is now on leave of absence at Somerville, Mass., has been relieved from further duty in the Division of the Philippines, and assigned to duty, at the expiration of his leave, at Allegheny Arsenal, Pa.

Mills, Frederick H., contract surgeon, ordered from his home at South Dayton, N. Y., to San Francisco, en route to Philippine service.

Gregory, Verdo B., contract surgeon, ordered from his home at Janesville, Wis., to San Francisco, en route to Philippine service.

Baily, Howard H., Hughes, Leonard S., McCullough, Edward A., and Unger, Isedor M., contract surgeons, arrived at San Francisco January 14 on the transport *Sheridan,* on leave of absence from the Division of the Philippines.

Jordan, Edward H., and Underwood, Fred R., contract surgeons, arrived at San Francisco January 14 on the transport *Sheridan,* and are en route to their homes for the purpose of leaving the service.

### Navy Changes.

Changes in the medical corps of the Navy for the week ending Jan. 16, 1904:

Crandall, R. P., surgeon, detached from the Naval Station, Guam, L. I., and ordered to the *Wisconsin.*

Murphy, J. A., P. A. surgeon, commissioned a P. A. surgeon from March 3, 1903.

Heiner, R. G., and Stoops, R. E., appointed asst.-surgeons with rank of lieutenant junior grade, from Dec. 26, 1903.

### Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 14, 1904:

White, J. H., surgeon, granted leave of absence for seven days from January 11.

Guiteras, G. M., surgeon, detailed as inspector of unserviceable property at Havana, Cuba.

Wickes, H. W., P. A. surgeon, granted leave of absence for two days from January 16.

Grubbs, S. B., P. A. surgeon, granted leave of absence for ten days.

Amesse, J. W., asst.-surgeon, granted extension of leave of absence on account of sickness for ten days from January 11.

Duke, B. F., A. A. surgeon, granted leave of absence for five days from January 14.

Tidd, R. M., A. A. surgeon, granted leave of absence for seven days under Paragraph 210 of the Regulations.

Tuttle, Jay, A. A. surgeon, Department letter granting leave of absence for ten days from Dec. 21, 1903, amended to read five days.

Walker, R. T., A. A. surgeon, granted leave of absence for twenty days from January 5.

Maguire, E. S., pharmacist, granted extension of leave of absence for ten days from January 8.

Richardson, S. W., pharmacist, to proceed to New York, for special temporary duty.

### Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 15, 1904:

#### SMALLPOX—UNITED STATES.

California: Fresno, Dec. 1-31, 2 cases.

Illinois: Belleville, Dec. 19-Jan. 9, 12 cases, 1 death; Jan. 2-9, Chicago, 1 case; Danville, 2 cases.

Indiana: Evansville, Jan. 6, 14 cases.

Louisiana: New Orleans, Jan. 2-9, 3 cases.

Maine: Jan. 7, Milford, 2 cases; Orono, 1 case.

Michigan: Grand Rapids, Jan. 2-9, 1 case.

Missouri: St. Louis, Dec. 26-Jan. 9, 6 cases.

New Hampshire: Jan. 2 9, Manchester, 6 cases; Nashua, 1 case.

New Jersey: Jan. 2-9, Camden, 2 cases, 1 death; Trenton, 1 case.

New York: Buffalo, Dec. 26-Jan. 9, 5 cases.

Ohio: Ashtabula, Dec. 28-Jan. 4, 1 case; Cincinnati, Dec. 24-Jan. 8, 6 cases, 1 death; Cleveland, Jan. 1-8, 2 cases; Dayton, Jan. 2-9, 1 case; Youngstown, Dec. 26 Jan. 9, 37 cases.

Pennsylvania: Jan. 2-9, Braddock, 6 cases; Philadelphia, 83 cases, 25 deaths; Pittsburg, 20 cases, 4 deaths; Reading, Jan. 4-11, 1 case.

South Carolina: Charleston, Jan. 2 9, 2 cases.

Tennessee: Nashville, Jan. 2-9, 1 case.

Texas: San Antonio, Dec. 1-31, 6 cases.

Utah: Salt Lake City, Jan. 2 9, 1 case.

Wisconsin: Milwaukee, Jan. 2-9, 10 cases.

#### SMALLPOX—INSULAR.

Philippine Islands: Manila, Nov. 14-Dec. 5, 2 cases, 1 death.

#### SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Dec. 12-19, 16 cases; Trieste, Dec. 5-12, 21 cases.

Brazil: Pernambuco, Nov. 1-31, 20 deaths.

British Guiana: Demerara, Oct. 31 Nov. 28, 62 cases.

Chile: Antofogasta, Nov. 1-30, 8 deaths.

France: Paris, Dec. 12-26, 31 cases, 3 deaths.

Great Britain: Edinburgh, Dec. 12-19, 1 case; Dec. 19-26, Glasgow, 64 cases, 2 deaths; London, 7 cases; Manchester, 2 cases; Newcastle-on-Tyne, 1 case; Dec. 26-Jan. 2, Leeds, 1 case; Southampton, 1 case; Nottingham, Dec. 12 26, 11 cases.

India: Bombay, Dec. 8-15, 4 deaths.

Italy: Catania, Dec. 17-24, 1 death; Messina, Dec. 11-18, 1 death.

Malta: Dec. 5-19, 8 cases.

Netherlands: Amsterdam, Dec. 19-Jan. 2, 6 cases, 1 death.

Russia: Moscow, Dec. 12-19, 1 case, 1 death; Odessa, Dec. 12-26, 3 cases; St. Petersburg, Dec. 5-19, 101 cases, 2 deaths; Warsaw, Nov. 21-28, 3 deaths.

Spain: Santander, Dec. 28-Jan. 4, 3 cases, 1 death.

Turkey: Smyrna, Dec. 13-20, 6 deaths.

Venezuela: Maracaibo, Oct. 24-31, 1 case, 1 death.

#### YELLOW FEVER—FOREIGN.

Mexico: Merida, Dec. 20-Jan. 2, 4 cases, 2 deaths.

#### PLAGUE—INSULAR.

Philippine Islands: Manila, Nov. 14-Dec. 5, 1 case, 1 death

#### PLAGUE—FOREIGN.

China: Hongkong, Nov. 29-Dec. 5, 1 death.

Egypt: Alexandria, Dec. 5-12, 3 cases, 2 deaths.

India: Bombay, Dec. 8-15, 56 deaths; Calcutta, Dec. 5-12, 13 deaths; Karachi, Dec. 6-13, 8 cases, 7 deaths.

Mauritius: Oct. 9-Nov. 5, 377 cases, 211 deaths.

South Africa: Cape Colony, Nov. 14-21, 1 death.

#### CHOLERA—INSULAR.

Philippine Islands: Nov. 14-Dec. 5, Manila, 13 cases, 11 deaths; Provinces, 643 cases, 567 deaths.

#### CHOLERA—FOREIGN.

Afghanistan: Herat, Dec. 21, present.

India: Bombay, Dec. 8-15, 1 death; Calcutta, Dec. 5-12, 38 deaths.

Japan: Nagasaki, Nov. 30, 130 cases, 64 deaths.

Java: Batavia, Nov. 28-Dec. 5, 14 cases, 2 deaths.

Straits Settlements: Singapore, Nov. 14-21, 4 deaths.

Turkey in Asia: Dec. 7, 37 cases, 30 deaths.

## Medical Organization.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.—The intention of the officers of this association to put it on a high plane is evidenced by the change in the requirements for membership, which now provide that the applicant must not only be a graduate of a recognized medical college, but that he shall be a member in good standing of both his county and state medical society.

### Illinois.

SIXTH DISTRICT MEDICAL SOCIETY.—January 14 Dr. Luther J. Harvey of Griggsville, councilor for the Sixth District of Illinois, called together the physicians in his district, for a joint meeting of the fourteen societies which comprise the district. The meeting was held at Jacksonville by invitation of the Morgan County Medical Society. The program for the afternoon consisted of a report from the secretary of each county society. The secretaries had been especially requested by the councilor to present to the meeting the various difficulties under which each county society labored. Dr. J. N. McCormack, chairman of the Committee of the American Medical Association on Reorganization, was present and took part in the discussion of these reports, pointing out to the various secretaries how they could overcome the reported difficulties. This proved to be a valuable feature of the meeting. Several papers on scientific subjects were presented by Drs. Lewis C. Taylor, Springfield; James L. Lowrie, Lincoln; Rufus H. Main, Barry, and Thomas J. Pitner, Jacksonville. In the evening all those in attendance were invited to a dinner, which was followed by an address on "Medical Organization" by Dr. J. N. McCormack, Bowling Green, Ky., and an address on the "Diagnosis of Hysteria" by Dr. Hugh T. Patrick, Chicago. Dr. Frank P. Norbury, president of the Morgan County Medical Society, acted as master of ceremonies at the dinner. Those present feel that the meeting will be productive of great good in stimulating interest in county society organization in the district. It gave the members coming from different counties an opportunity to discuss the subject of maintaining live active local societies with each other, and each was enabled to go home with some new ideas gained from his neighbors, as well as from the national organizer, who gave invaluable assistance by practical suggestions of ways to overcome obstacles and difficulties and how to promote interest in the local society and secure the co-operation of all the members of the profession.

### Maryland.

Howard County Medical Society.—This society held its quarterly session at Ellicott City, January 5, and heard an address by Dr. William T. Watson of Baltimore on "Medical Organization."

Anne Arundel County Medical Society.—This society met in Annapolis, January 5, to reorganize under the rules of the American Medical Association. The following officers were elected: Dr. H. Baldwin Gantt, Waterbury, president; Dr. C. R. Winterson, vice-president; Dr. Frank H. Thompson, Annapolis, treasurer; Dr. Benjamin R. Davidson, Davidsonville, recording secretary; Dr. Charles B. Henkel, Annapolis, corresponding secretary, and Drs. George Wells, Annapolis, C. H. Anderson, and J. W. DuBois, Gambrills, censors.

### Rhode Island.

Rhode Island Medical Society.—At the quarterly meeting held in Providence, December 3, Dr. John Champlin, Westerly, reported for the committee on reorganization, recommending the adoption of a new constitution and by-laws. The report was received and action deferred.

### Tennessee.

Warren County Medical Society.—Physicians of the county met at McMinnsville and organized a society, with the following officers: President, Dr. Albert Seitz, McMinnsville; vice-presidents, Drs. H. V. Copenhaver, Pine Bluff, and T. C. Martin, and secretary and treasurer, Dr. Thomas O. Burger, McMinnsville.

### Texas.

Co-operation for the Profession's Advancement.—The following letter has been sent by Dr. F. Paschal, San Antonio, Texas, president of the Texas State Medical Association, to the secretaries of all the component societies in the state:

San Antonio, Tex., Dec. 19.

*Dear Doctor:*—I am anxious to get an expression of opinion from the medical profession of our state as to the measures that in their opinion should be considered by our association for its best interest, advancement and welfare.

I will esteem it a favor if you will kindly communicate with the members of your county society and ask those members who feel inclined to do so, to write me fully, making such suggestions as they may think proper for the good of our association. I will study their recommendations, and in my annual message incorporate such as may be of practical value, and that may help in the upbuilding of the profession and our association.

Please send me the names of all the reputable physicians in your county who have not joined your county society.

Asking that you will kindly give these matters your earliest attention, I beg to remain yours truly, F. Paschal,
President Texas State Medical Association.

## Society Proceedings.

### COMING MEETING.

Medical Society of the State of New York, Albany, Jan. 26 28; 1904.

### AMERICAN SOCIETY OF TROPICAL MEDICINE.

*First Public Meeting, held at the University of Pennsylvania, Philadelphia, Jan. 9, 1904.*

A Vice-President, Dr. James M. Anders, in the Chair.

A brief statement of the scope and workings of the society was made by the secretary, Dr. Joseph McFarland of the Medico-Chirurgical College.

### The Etiology of Yellow Fever.

Dr. James Carroll, U. S. Army, a former member of the commission appointed by the Surgeon-General of the United States to investigate yellow fever at Havana, Cuba, made an address, reviewing in an interesting manner the early researches on the etiology of the disease, giving special consideration to the work of Freire, Sanarelli and Finlay. He then reviewed the work of the commission whose researches have now become world-wide and resulted in the proof that we have no reason to believe that yellow fever is propagated by any other means than the bites of the mosquito known as *Stegomyia fasciata*.

A description of the experiments made to show the infectiousness of fomites seemed to exclude all possibility of yellow fever being transmitted directly. It was with pleasure that the speaker reported that confirmation of all the work of the United States Commission had been given by the more recently appointed French Commission.

### CHICAGO SURGICAL SOCIETY—CHICAGO MEDICAL SOCIETY.

*Joint Meeting, held Jan. 13, 1904.*

The President of the former, Dr. E. Wyllys Andrews, in the Chair.

### Symposium on the Surgical Treatment of Bright's Disease.

Dr. Arthur R. Elliott read a paper entitled "The Medical Aspects of Decapsulation of the Kidneys for the Cure of Chronic Bright's Disease." A study of available statistics showed the total cases to be 76; died, 36; mortality ratio, 47.36 per cent.; improved, 26; improved ratio, 34.21 per cent.; unimproved, 12; unimproved ratio, 15.78 per cent.; rendered worse, 2; worse ratio, 2.66 per cent.; summary: 65.80 per cent. failed to be favorably influenced.

Dr. Elliott emphasized that chronic Bright's disease is a disease of the entire system, of very gradual development, and usually has existed for months and years before it is detected. It is produced by a chronic toxemia, either systemic or infective in origin, producing widespread arterial and cardiac degenerative changes, which, once established, are permanent, and which eventually constitute the most threatening element. General edema or anasarca is often largely a cardiac dropsy from myocardial degeneration. In like manner, developing anuria and uremia may be largely cardiac. In the later stages these cardiac aspects virtually convert the therapeutic problem into a question of sustaining a failing heart. Albuminuric retinitis is a terminal symptom. When it develops, death usually occurs in two years, and to operate hastens death.

General improvement after decapsulation does not prove the procedure justified, for mere hygiene and rest often will do as much. Within three and one-half months after decapsulation a new and usually a tougher fibrous envelope has taken the place of the original capsule. This may account for the many relapses and deaths.

Dr. George F. Suker followed with a paper entitled "A Consideration of the Surgical Treatment of Chronic Bright's Disease from an Ophthalmic Standpoint."

After analyzing statistics, he argued: 1, As at least 25 per cent. of all grades and varieties have retinal or other fundus complications; 2, usually of the degenerative inflammatory type, and, 3, as the cardiovascular system is or shortly will be seriously involved; 4, perhaps undetected; and, 5, proof of a general systemic circulating toxin; and, 6, as the death rate under medical treatment (hospital and private practice) is about 75 per cent. for the first year, and, at least, 85 per cent. for the second year, scarcely any surviving four years, and practically 100 per cent. when operated on; and, 8, as the medical treatment offers as good, if not far better, results; therefore, decapsulation of the kidney for chronic Bright's disease is absolutely contraindicated when a retinitis or a neuroretinitis albuminurica exists, with or without retinal hemorrhages.

DISCUSSION.

DR. E. WYLLYS ANDREWS reported four interesting cases. In three the procedure caused no more than temporary benefit, and in the fourth benefit was ascribed to a coincident nephropexy.

DR. A. J. OSCHNER said there are two distinct classes: One with healthy kidneys, in which a mechanical injury is corrected by fixation and decapsulation, the kidney itself containing the elements which were necessary for its recovery. In the other, the systemic conditions may prevent repair in spite of relief of tension or other burdens. He said sufficient observations had now been made to justify the profession in accepting the conclusions of Dr. Elliott.

DRS. L. L. MCARTHUR, RANDOLPH BRUNSON and ALEXANDER HUGH FERGUSON reported cases. The latter urged differentiation between cases suitable for this operation and those not suitable. He would decapsulate and suspend all tender and floating kidneys, and would decapsulate in certain cases of nephritis. He detailed several cases, and expressed himself as believing that there was a legitimate field for renal decapsulation.

DR. EMIL RIES narrated an interesting case of hematuria treated by decapsulation. From the kidney subsequently removed over six hundred sections were made. He examined every one, and among them there was but one anastomosis, and this was of scar tissue. This proved conclusively the incorrectness of the theory that success of decapsulation was due to anastomoses forming, as far as this example was concerned. He said he was skeptical as to the ultimate results of decapsulation.

DR. R. B. PREBLE called attention to alleged cures of Bright's disease, in which there was no proof of the cases being true chronic Bright's disease. He said that throughout the literature the terms nephritis and chronic Bright's disease were used interchangeably and that they were not identical terms. The difference between the two was clearly pointed out. The internist could not recommend his patients to undergo an operation which showed a mortality of 76 per cent. Renal decapsulation, therefore, was an unjustifiable procedure, without any reasonable, rational explanation having been offered as yet for its use, so far as he knew.

DR. ARTHUR DEAN BEVAN said that the operation was not the surgical treatment of Bright's disease, because the majority of surgeons of the world had never accepted the operation as being a logical procedure. The profession could safely say that stripping of the capsule as a treatment for Bright's disease was a complete failure, and should receive the stamp of disapproval of scientific men. Out of this work there had come some good, because it emphasized the importance of a class of cases in which another operation was of value, namely, in cases of anuria, of essential kidney hematuria, in chronic pyelitis with some nephritis, draining the kidney by a rapid nephrotomy was of a distinct value. It had effected a great many cures, and would accomplish more.

DR. JOSEPH L. MILLER said that in the statistics of Edebohls the analyses and diagnoses were too indefinite to enable anyone to draw any conclusions as to the value of this operation in nephritis. The profession needed a few cases, carefully studied before and after operation, to settle the question.

DR. GUSTAV KOLISCHER thought Drs. Suker and Elliott had struck the keynote, that the value of renal decapsulation was not well established. It was very essential to make diagnoses based on proper conceptions of pathology.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Regular Meeting, held Dec. 21, 1903.*

The President, Alexander Lambert, M.D., in the Chair.

### A Review of Some Statistics of Insanity.

DR. WILLIAM MABON, formerly the superintendent of the State Hospital at Ogdensburg, presented this paper. He pointed out that the proportion of insane to population twelve years ago was 1 to 374, now it is 1 to 303. Hospitals for the insane in New York State have an average daily census of 23,000, which was a good basis for the deductions following. During the past year in this state, Dr. Mabon said, 15.31 per cent. of the cases of insanity had been ascribed to moral causes, 53.16 per cent. to physical causes, whereas in 31.51 per cent. the cause could not be ascertained. Among the physical causes intemperance took the first place, as it was the cause in over 14 per cent. of the cases admitted, and was a contributing factor in 30 per cent. of all the cases received. Other physical causes were pregnancy, lactation, the menopause, fevers, privation, epilepsy, epidemic influenza, insolation, injuries and autointoxication. Of over 1,400 persons admitted, 17.71 per cent. apparently inherited the mental disease, 50 per cent. denied such heredity, and in 31.67 per cent. the facts on this point were not obtainable. Of the 73,000 cases treated in these hospitals since 1888, the insanity appeared to be hereditary in 22 per cent. There were twice as many widowed women as widowed men received. The admissions between the ages of 30 and 40 exceeded very largely those of any other decade, over 28 per cent. of all admissions occurring in this decade. Of the 7,619 admissions, only 112 led professional lives. More men than women recover, and, in hospitals, the chance of ultimate recovery was slightly better in acute mania than in melancholia. The death rate was about 5 per cent.

DISCUSSION.

DR. JOSEPH COLLINS severely arraigned the profession and the public generally for the utter lack of proper scientific treatment of the acutely insane. He said that these people did not require fine hospitals and modern laboratories so much as they needed careful medical treatment, such, for example, as would be given to a person ill with typhoid fever. He knew of only one asylum in this country that could boast of providing for this class anything worthy of the name of treatment, and that was the Shepard Asylum in Baltimore. It was all well enough to provide costly homes for the chronic insane, but it was of far greater moment to give succor and the right kind of care and treatment to insanity in its incipiency, and so prevent it, as far as possible, from becoming chronic.

DR. ALEXANDER LAMBERT said that the acutely insane received the treatment Dr. Collins advocated in the New York Infirmary for Women and Children, where a psychopathic ward had been in operation for two years, and was open to physicians who desired to treat their own patients there. He said it was not probable that our knowledge of insanity would be materially advanced except by a study of the brain in action. An effort to prosecute just such a research had taken the form of the New York State Pathological Institute, but its career of usefulness had been cut short because our legislators could not be made to see that it was a better investment for the people to spend a few thousand dollars a year in such study than to vote millions for the maintenance of costly hospitals for the chronic insane. To our shame, it must be said that the real deathblow to this institute was given by three members of the medical profession from other states. Certainly, the state had made great progress in the housing and general care of the insane, and the time was bound to come when the insane would receive proper treatment while the mental disorder was still in the acute stage.

DR. MABON said that scientific treatment of the acutely insane was given in the MacLean Hospital, Massachusetts, and in several of the state hospitals in New York. A very large proportion of those coming to these hospitals are already chronic insane, and proper provision must be made for them. Many of our modern state hospitals are now making an earnest effort to separate the acutely insane from the others and give them proper medical treatment in a special department of the hospital.

DR. FREDERICK HOLME WIGGIN showed specimens from cases of nephrectomy, appendicectomy and laryngectomy, and described the interesting features of each.

## ACADEMY OF MEDICINE OF CLEVELAND.

*Thirteenth Regular Meeting, held Nov. 20, 1903.*

The President, Dr. Harris G. Sherman, in the Chair.

### Chronic Ulcer of the Stomach and Duodenum from a Surgical Standpoint.

Dr. William J. Mayo, Rochester, Minn., in this paper, said that the stomach acts as a fuel storehouse, and in it the food is macerated and broken up by the aid of a weak solution of hydrochloric acid and pepsin; the resulting product is slowly passed on into the small intestine, the first portion of which is more nearly related to the stomach than the intestine, the latter really beginning at the common duct. This first portion of the small intestine, he regards, for its length, as the most frequently diseased part of the alimentary tract. The pylorus is compared to the gizzard of a fowl, as it pulverizes the food. At operations, ring-like constrictions or vermicular movements of this part of the stomach can be seen. Two facts are pre-eminent in the history of gastric ulcer: First, that 75 per cent. occur in the pyloric end, the part most exposed to mechanical injury, and, second, that usually there is a relative increase in the hydrochloric acid. This is an important etiologic factor in the causation of duodenal ulcer above the common duct and occasionally in the appearance of secondary jejunal ulcer after gastro-enterostomy. The statistics as to the frequency of gastric ulcer show that women are affected more than men, especially as regards the small acute ulcer; in about 20 per cent. of cases more than one ulcer exists, and at least 75 per cent. of all gastric ulcers are in the pyloric end; the chronic duodenal ulcer is found most frequently in adult males. The most prominent symptom of chronic ulcer is pain, often burning or boring, but varying in intensity; taking food usually increases it, but may give relief. Periods of freedom from pain, often lasting weeks or months, may lead to the erroneous belief of a cure, only to be followed by a return of the symptoms. Owing to the pain after eating, the patient reduces his diet to a minimum and vomiting is rare unless there be obstruction; hemorrhage in appreciable quantities is rare. Passing the stomach tube may be impossible during the attack of pain; the stomach, however, is not sensitive to touch, but the gaseous distention, which usually occurs, is very distressing. Duodenal ulcer presents symptoms of a similar character, but may be confounded with biliary calculi; the lapse of time between taking food and the onset of pain is not of much value in determining the location of the ulcer.

The general tendency to consider all palpable tumors of the stomach malignant is erroneous. Excess of hydrochloric acid is the only laboratory test of any value and then only as corroborative evidence. Most cases of chronic ulcer develop changes in the size and position of the stomach, due to cicatrices, contractions or adhesions; the most important is a narrowing or fixation of the pylorus leading to the so-called pyloric syndrome of Hartmann—pain, indigestion, gas and hypersecretion; frequently peristaltic waves in the gastric area can be seen. Distention of the stomach with air pumped in with a Davidson syringe will decide the question of dilatation or prolapse. Pyloric obstruction is indicated by dilatation, stagnation and retention of food causing fermentation, late vomiting and emaciation; the condition can be aptly compared to a valvular heart lesion, periods of dilatation and gastric insufficiency alternating with spells of comparative health due to compensation effected by hypertrophy. The best practical test as to loss of motility is the finding of remnants of food in the stomach on using the tube before breakfast. Chemical and microscopic examination of the gastric contents is often of little value. The history and the physical examination of the stomach, especially when artificially distended, usually lead to a correct diagnosis.

Statistics all agree on the frequent failure of medical treatment in these cases. The development of cancer on chronic ulcer is also a risk. He warns against operation in cases of gastric dilatation and gastroptosis without organic lesion. An incision in the median line between the ensiform cartilage and the umbilicus is advised; this allows the movable part of the stomach to be withdrawn from the abdomen; the examination should be thorough, including the fundus, the region of the cardiac orifice, the duodenum and the gall bladder; if one ulcer be found, search must be made to see if others are also present. Enlarged glands in the omenta are useful in locating the lesion; they are usually found in the gastrocolic rather than in the lesser omentum; the examination of the posterior wall may necessitate opening the lesser peritoneal cavity through either the lesser or gastrocolic omentum. Exploration of the interior of the stomach through an incision in the anterior wall is advisable, but even in this way it may be very difficult to locate the ulcer. The indications for the surgeon are the consideration of the ulcer itself and the relief of the complicating dilatation, distortion and adhesions. The keynote is drainage, and for this purpose gastro-enterostomy is the operation of widest application: excision of the ulcer or of the whole ulcer-bearing area, i. e., the muscular pyloric region, as advised by Rodman, may be indicated; pyloroplasty is safe and has a small field of usefulness, but in these cases the gastroduodenostomy of Finney gives far better results. This operation is specially indicated in late cicatricial stenosis and contraction, but will probably often fail in open ulcer; the mortality in either of these procedures is very low. Gastrojejunostomy is the operation of choice, as it drains the stomach to the best advantage, and the new opening will not contract if the pyloric orifice be already contracted or artificially made so at the time of the operation. The formation of secondary peptic ulcer of the jejunum, a tendency to drag on the point of attachment, and secondary contraction of the opening, are more apt to occur after the anterior than the posterior operation. The best method is posterior suture gastro-enterostomy made within 4 inches of the origin of the jejunum; the Murphy button makes the most perfect opening, but is apt to be retained in the stomach; the McGraw ligature is very safe, and a fine opening is secured—it is particularly indicated in cancer and by the anterior operation; by suture a large opening can be made. All these methods give good results. In a series of 238 gastro-enterostomies for all causes performed by Mayo and his brother there was a mortality of 25 per cent. in malignant cases and 7 per cent. in non-malignant cases; 6 per cent. of the cases required a secondary operation. Other things being equal, the posterior method gave the most permanent results, but at a small increase of risk. In cancer early operation is requisite and diagnostic exploratory incision is necessary; very few of the 135 cases operated on for gastric cancer failed to live 12 months or more, and he is convinced that in 5 years as good results will be secured as in cancer of the breast; 60 per cent. are located in the movable pyloric region, and as the lymphatic supply is the same as the vascular the greater part of the stomach can be removed and the remaining portion employed for a gastro enterostomy; the operation can be made nearly bloodless by tying the four blood vessels as in a hysterectomy; wound inoculation can be prevented by severing the tissues with the cautery; by suturing the edges, distal to the clamps, the gastric and intestinal cavities need not be opened, and after permanently closing these openings a healthy portion of the stomach may be used in performing the gastro-enterostomy in the usual way.

#### DISCUSSION.

The discussion was opened by Dr. A. J. Ochsner of Chicago, who said that the differential diagnosis between chronic ulcer and gallstones is often difficult, but not important, as surgical intervention is indicated in either case. The examination of the interior of the stomach is not necessary, as drainage is the indication, not excision of the ulcer. There is a certain class of cases often diagnosed as gastric ulcer in which the appendix is at fault, not the stomach. The symptoms are referable to the stomach, but the pain is found to occur when pressure is made over the appendix. Some cases of locomotor ataxia may cause confusion. Neurasthenia may be secondary to gastric ulcer, so that the latter is not to be excluded if the former be present. The presence of a tumor is not a contraindication to operation; he has seen the removal of benign tumors give relief. The desire for food is not a sure sign in the differential diagnosis between cancer and ulcer; the decomposition of food in the dilated stomach, especially after hemorrhage from ulcer, may cause marked anorexia. The indication in chronic ulcer is clearly gastro-enterostomy, and the operation must be made at the most dependent point of the stomach to prevent regurgitation of intestinal fluids with the resulting vomiting. In the diagnosis the excess or absence of hydrochloric acid must not be relied on. He thinks the suture will prove the favorite method of operation, some method similar to that of Mikulicz. He favors the McGraw ligature and the anterior operation. In cancer the operation must be early. More cases are constantly coming to operation on account of the steadily increasing success of gastric surgery. The operation of gastrectomy after ligating the vessels and using clamps, as Mayo mentions, is comparatively simple, and is steadily gaining in favor.

The paper was also discussed by Drs. Stamm of Freemont, Hamilton of Columbus, Peck of Youngstown, Dickenson of Ashtabula, Sawyer, Allen, Parker, Hoover, Lowman, Biggar, Crile, Scott, Bunts, Rosewater, and House, of Cleveland.

Dr. Mayo, in closing the discussion, thought that medical means should certainly be first tried, but the trouble was that after so many medical cures relapses occurred. As to the efficiency and limitations of the surgical relief, accurate prognosis is not yet possible, but the results are most encouraging.

## Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

### Herpes Zoster.

The local treatment of herpes zoster, according to the *Encyc. Med. and Surgery*, consists in protecting the parts from injury and infection and to relieve the pain. For the latter symptom the following is recommended:

| | | | | |
|---|---|---|---|---|
| ℞. | Morph. sulph. | gr. v | | 30 |
| | Pulv. camphoræ | gr. xx | 1 | 30 |
| | Pulv. zinci oxidi | ℥i | 30 | |

M. Sig.: Dust on the affected area, cover with cotton, and bandage.

Or the following may be substituted:

| | | | | |
|---|---|---|---|---|
| ℞. | Morph. sulph. | gr. x | | 65 |
| | Collodii (flexible) | ℥i | 30 | |

M. Sig.: To be painted over the affected areas.

The galvanic current, applied along the course of the nerve, may be advantageous in giving marked relief from the pain.

Internally the following may be prescribed if the pain becomes so severe as to require an anodyne:

| | | | | |
|---|---|---|---|---|
| ℞. | Morph. sulph. | gr. 1/8 | | 008 |
| | Phenacetini | gr. ii | | 12 |
| | Quininæ sulph. | gr. i | | 06 |

M. Ft. cap. No. i. Sig.: One such capsule every four hours.

The phosphide of zinc, given in doses of one-third (.02) of a grain and repeated every three hours, is strongly recommended. For the neuralgia persisting after the eruption has disappeared, quinin, iron, strychnin and arsenic are of value.

### Fever Diet for Children.

Augustus Caillé, in *Post Grad.*, recommends a so-called "fever diet" in all febrile conditions in children. The food should be semisolid, so as not to overtax the feeble digestion or leave a large residue in the intestine for decomposition which would favor autointoxication or local irritation.

He recommends an exclusive milk diet for infants up to 8 months; also in typhoid fever, in acute and chronic Bright's disease and in acute pyelitis and scarlatina of children. In older children he prefers to add gruels and farinaceous and aromatic waters to the diet list. Boiled and cooled water should be offered freely to favor excretion and elimination by skin and kidneys. In older children who no longer take the bottle, food may be selected from the following list: water, toast water, farinaceous water, gum arabic water, egg white in water, peppermint tea, imported ginger ale, black tea, milk, matzoon, kumiss, buttermilk, whey; sterilized, pasteurized, peptonized milk, malted milk, beef broth, mutton broth, chicken broth, Mosquera's beef jelly, soups, gruels, cornstarch pap, pea soup, burnt flour soup, eggnog, somatose in peppermint tea, custard, ice cream, water ices, orange or pineapple juice and unfermented grape juice.

Milk is contraindicated, according to the author, in dyspeptic and inflammatory diarrheas and in cases of milk idiosyncrasies; also in typhoid cases accompanied by marked tympanitis. In such conditions some of the foregoing preparations may be substituted.

Rectal feeding is advised when food is not tolerated by the stomach or after an injury or operation on the stomach. It must also be employed where there is inability to swallow or in gastric ulcer, in incessant vomiting or in the insane. He then states the usual technic of rectal feeding. The fluid should consist of milk or gruel with egg, whiskey or peptonized food in watery solution. Children will usually retain from two to eight ounces. He further states that too much must not be expected from rectal alimentation on account of its little influence in counteracting the pernicious action of bacterial products or toxins on the nerve centers.

#### DIET IN CONVALESCENT STAGE.

The author recommends in cases of breast and bottle-fed infants, a gradual return to the food of the child given in health; and for older children, in addition to their milk, some of the following articles may be given:

Well-cooked cereals, cornstarch pap, bread pudding, scrambled eggs, calf's-foot jelly, beef jelly, milk toast, sponge cake, apple sauce, baked apples, scraped meat, bread and zwieback.

### Migraine.

Rachford, in *Med. News*, states that the treatment of migraine, in order to be successful, must be continued for many months, and the success of the treatment depends to a great extent on the simplicity and palatability of effective medication. He recommends the following combination:

| | | | | |
|---|---|---|---|---|
| ℞. | Sodii sulph. | gr. xxx | 2 | |
| | Sodii salicylatis (from wintergreen) | gr. x | | 65 |
| | Mag. sulph. | gr. l | 3 | 30 |
| | Lithii benzoatis | gr. v | | 30 |
| | Tinct. nucis vom. | gtt. iii | | 20 |
| | Aquæ destil. q. s. ad | ℥iv | 120 | |

M. Sig.: To be charged with carbonic acid and one-quarter to one-half glass to be taken in the morning on rising, one-half an hour before breakfast.

He recommends that the foregoing combination be made up in large quantities and sent to a mineral-water factory and charged with the gas and placed in small-sized bottles. Given after this fashion the author states that this medication may be continued for weeks or months without losing its therapeutic value or producing disgust on the part of the patient. If this combination proves to be too much of a laxative one of the following combinations may be used in its stead:

| | | | | |
|---|---|---|---|---|
| ℞. | Sodii sulph. (gran.) | ʒii | 8 | |
| | Sodii phos. (gran.) | ʒi | 4 | |
| | Sodii salicylatis | gr. x | | 65 |
| | Tinct. nucis vom. | gtt. iii | | 20 |
| | Aquæ destil. q. s. ad | ℥iv | 120 | |

M. Sig.: To be taken each morning on rising, one hour before breakfast; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Pot. bicarb. | gr. xx | 1 | 30 |
| | Sodii et potassii tartratis | ʒi | 4 | |
| | Sodii salicylatis | gr. v | | 30 |
| | Tinct. gent. comp. | ʒiv | 15 | |
| | Aquæ destil. q. s. ad | ℥iv | 120 | |

M. Sig.: To be taken in the morning before breakfast.

In the early part of the treatment the author recommends the administration of sodium benzoate, sodium salicylate or cannabis indica. The first preparation may be given in doses of twenty grains each (1.30) after lunch or dinner administered in peppermint water or some carbonated water. If sodium salicylate is preferred, it should be given in capsules in three to five grain (.20-.30) doses after lunch and dinner.

In children salol may be substituted, or in some cases salicin.

Cannabis indica is of great value, given in quarter-grain (.015) doses three times a day, in controlling the paroxysms of migraine and may be continued, if necessary, for three or four weeks, until the patient becomes accustomed to the siphon treatment. It may, if thought advisable, be combined with sodium salicylate or salol. All medication, except the siphon, should be discontinued after three to six weeks, unless, perhaps, it is necessary to give an intestinal antiseptic, in which case a one-grain salol coated pill of potassium permanganate is taken three times a day after meals, or in its stead the following more preferable combination:

| | | | |
|---|---|---|---|
| ℞. | Sodii sulphocarbol. | gr. v | 30 |
| | *Potassii permangan.* | gr. i | 06 |
| | Beta-naphthol | gr. i | 06 |

M. Ft. pilula No. i. Sig.: One such after meals and at bedtime.

To make a convenient carbonated draught the following may be used:

| | | | |
|---|---|---|---|
| ℞. | Sodii salicylatis (wintergreen) | ʒii | 8 |
| | Sodii phos. (dry) | ʒiv | 15 |
| | Sodii sulph. (dry) | ʒx | 40 |

M. Sig.: One teaspoonful to be taken in a glass of seltzer water on rising.

In children too young to take the charged combination the following combination is recommended by the author:

| | | | |
|---|---|---|---|
| ℞. | Sodii sulph. | ʒiiss | 10 |
| | *Mag. sulph.* | ʒv | 20 |
| | Lithii benzoatis | ʒii | 8 |
| | Elix *taraxaci* | | |
| | Aquæ destil., āā | ℥iii | 90 |

M. Sig.: One tablespoonful before breakfast for a child of eight years.

If the patients become, for any reason, nauseated by the use of this siphon method of treatment, dilute nitromuriatic acid is recommended after meals and cascara sagrada or the compound licorice powder at bedtime. After substituting these preparations for one week the charged preparations may be again taken.

### Acute Colds.

In cases of acute colds, accompanied by pharyngitis, the *Encyc. of Med. and Surg.* recommends an application of silver *nitrate grains fifteen* (1.00) to the ounce (30.) of water or the following combination:

| | | | |
|---|---|---|---|
| ℞. | Glyceriti acidi tannici | ℥ii | 60 |

Sig.: *To be applied locally three or four times daily; or:*

| | | | |
|---|---|---|---|
| ℞. | Menthol | gr. iii | 20 |
| | Liq. petrolati | ℥i | 30 |

M. Sig.: Apply locally.

As an inhalation the following combination is recommended:

| | | | |
|---|---|---|---|
| ℞. | Spts. chloroformi | m. v | 30 |
| | Menthol | gr. iii | 20 |
| | Tinct. benzoini co. | ℥i | 30 |

M. Sig.: One teaspoonful to be floated on a pint of hot water and inhaled twice daily.

Internally the following is of service:

| | | | |
|---|---|---|---|
| ℞. | *Codeinæ* sulph. | gr. iii | 20 |
| | Glycerini | | |
| | Syr. simplicis, āā | ʒii | 8 |
| | Sol. pot. citratis q. s. ad | ℥iii | 90 |

M. Sig.: Two teaspoonfuls every three or four hours.

### Children Predisposed to Phthisis.

McConaghy, in *Internat. Med. Mag.*, recommends, in the management of children predisposed to tuberculosis, that:

1. On rising, a glass of hot or cold water should be taken.
2. Breathing and other exercise in a well-aired room.
3. A regular time for stool immediately after exercise.
4. Cold bath with vigorous rubbing, upward, of the body.
5. A play of one hour in the sunshine every day.
6. Encourage proper carriage of the body, chest upward and forward, *abdomen drawn in* and arms hanging loosely.
7. Cultivate habit of breathing on the street, and breathe through the nose.
8. Sleep on hard bed and without a pillow.
9. Limit the child's studies.

## Medicolegal.

**Physician Must Show Compliance with Statute.**—It is now settled, the Court of Civil Appeals of Texas says, in the case of Wooley vs. Bell, that a physician can not recover for professional services unless he shows compliance with the statute of this state (Texas) regulating the practice of medicine.

**Milk-Supply Law Upheld for Bacteriologic Reasons.**—The Court of Appeals of Kentucky says, in the case of Sanders vs. Commonwealth, that the development in the science of bacteriology in recent years has conclusively proven that the microbe is a most potent agent in the propagation of contagious diseases, and that there is no more favorable element for their absorption, growth and development than milk, and that milk contaminated by their presence communicates diphtheria, typhoid fever, tuberculosis, and other kindred diseases, to human beings, especially to the young. And it is a matter of common knowledge that the conditions usually prevailing around places where "still slop" is produced are also highly favorable to the development of many forms of bacilli. The heat, dampness and fermentation—all essential elements in the production of still slop—are favorable to germ growth. So that it may be fairly assumed that the general assembly, in *the enactment of a statute prohibiting the sale of milk from* animals fed on still slop, had sufficient information to justify the belief that such milk had ample opportunity to become impregnated with elements dangerous to the public health. Nearly every police regulation affects to some extent property rights, and, while this power can not be made the excuse for oppressive and unjust legislation, the courts are not permitted to say that the legislature may not enact laws apparently necessary for the public health. Wherefore, the court reaches the conclusion that it has no power to hold that the general assembly did not have under the "police power" authority to enact the statute mentioned.

**Practicing Medicine.**—In Springer vs. The District of Columbia, where the Court of Appeals of the District of Columbia affirms a conviction of practicing medicine and publicly professing to do so without first having obtained a license so to do in the manner required by law, the court says that the statute not declaring what specific acts shall constitute "practicing medicine," or what it is to "publicly profess to do so," it is for the courts to determine whether the facts proved in a particular case bring it within the terms of the statute, taking these in the sense in which they are commonly understood. Here it appeared from the evidence that the party proclaimed himself an expert in the treatment of alcoholism, and had several patients. He furnished the remedies and employed licensed physicians to take immediate charge. These gave his remedies, and the only discretion exercised by them was in respect of the frequency of the doses, and of any complication that might ensue. In other words, professing knowledge of the science of medicine, he obtained patients, diagnosed their cases, decided that they were suffering from a malady for which he had discovered or compounded a remedy, prescribed and furnished that remedy, and employed other physicians to take immediate charge of the patients and administer the same. Selling his compound to such persons as he might examine and pronounce fit subjects of medical treatment was "practicing medicine" as much as if he had given them, instead, an ordinary prescription that could be satisfied in any regular drug store. The fact that he registered at a hotel as "Dr." would not be sufficient proof of a violation of the statute, but it was admissible to show, in connection with other evidence, that he held himself out as a practitioner.

**Against Compulsory Physical Examination—as to Urine.**—In Austin & Northwestern Railroad Company vs. Cluck, a personal injury case brought by the latter party, the Supreme Court of Texas considers, as a practically new question, the authority of the court to require the party suing in such a case to submit to a physical examination by a committee to be appointed by the court. It says that the right to have such examination is supported by the greater number of decisions of the courts of the states of this Union and by the text writers. But it is of the opinion that the fact that no such examination was ever authorized by a court at common law in England is conclusive that those courts had no authority under the common law to make such order. It says further that the provisions of the constitution and statutes of Texas with regard to the practice and jurisdiction of courts are antagonistic to the spirit and purpose of such proceedings. The constitution secures every citizen of the state against any seizure or search of his person which is not plainly authorized by some law of the state. Whether, under the constitution, the legislature might authorize the physical examination of a party to a suit, is not determined. The legislature has not only failed to provide for a physical examination of parties, but has actually repealed from the common law in the state the only proceeding that bore the slightest resemblance to it, namely, the right of view, by which a party sought to have his witnesses examine the premises to qualify them to testify. And it deems it sufficient to say for the courts of Texas that the authority to order such an examination and force a party to submit to it is found neither in common law nor in the statute laws of the state, and therefore does not exist and can not be exercised by the courts of Texas. It may be true that evil practices by plaintiffs in these cases have grown up, but it is equally true that to establish such a rule of practice would place in the power of defendants in damage cases the means of annoying plaintiffs, and of intimidating the most worthy of the complainants in such suits. Then, at the trial of this case, after the testimony of physicians who had treated the party suing for his injuries had been introduced, and he had himself testified as to his injuries and the circumstances under which he received them, the attorney for the railroad company propounded to him this question: "Are you willing, in the presence of some reputable person, or by yourself, and subsequently to be supported by your affidavit, that it is urine voided by you into a vessel which is absolutely free from any foreign matter, to furnish a specimen of your urine, voided under the circumstances stated, to a committee of competent physicians to be appointed by the court, so that an analysis of that urine may be made?" The Supreme Court holds that an objection to this was properly sustained. It says that the same objections apply to this procedure as to that which sought a physical examination of the party suing. The court could not enforce such an order without taking possession of his person and exercising coercive power to compel him to perform the act. Again, the Supreme Court says that the reason for refusing a physical examination of the party suing is not that the other party is not entitled to have the benefit of the evidence, but because the court has no power to force him to submit to such an examination. He has a right to submit or refuse, but, in case he should refuse, the party sued is entitled to have that fact go to the jury, to be considered by them in determining on the credibility and sufficiency of the testimony on which he seeks to recover. If the jury should believe that the refusal showed a purpose to conceal the truth, they might take the fact into account in weighing the evidence. If a satisfactory reason should be given for the refusal, and other evidence were sufficient, the refusal would not defeat a recovery. The suggestion that the court might enforce its order by refusing to submit the case to a jury is not sound, for in this state a party is entitled to a trial by jury whenever he produces evidence which shows *prima facie* a right to recover. In case of unreasonable refusal to allow examination, the court could and should set aside the verdict, unless the evidence satisfactorily established the right.

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### Medical News, New York.

*January 9.*

1 *The Mortality of Appendicitis. Frederick S. Dennis.
2 *The Relation of Proteids to Edema in Marantic Children; with Urinalysis in Infantile Diarrhea. Palmer A. Potter.
3 *Diagnosis of Gall-bladder Diseases. J. Thompson Schell.
4 *The Diagnostic Value of the Roentgen Rays. Charles L. Leonard.
5 *The Value of Climate in Genito-urinary Tuberculosis. W. H. Prioleau.
6 Seasickness. William F. Waugh.

1. **Appendicitis.**—Dennis holds that the average mortality of appendicitis under medical treatment is about 16 per cent., with 30 per cent. of relapses, while with diffuse suppurative peritonitis it is almost uniformly fatal. On the other hand, the mortality in appendicitis in all cases under surgical treatment is about 4 per cent., with no relapses, and in diffuse suppurative peritonitis the mortality given by the statistics is from 31 per cent. to 90 per cent. In 11 consecutive cases here reported the mortality was 0. He comes to the conclusion that after thirty-six hours, if the case is not improving, it should be operated on at once, and in other cases where the attack runs a favorable course the interval operation should be performed. The plan of allowing simple catarrhal cases which are doing well within thirty-six hours to recover without intervention, and prompt operation after thirty-six hours, when the cases are not doing well, gives the best prospects. The pendulum, he thinks, has swung too far toward indiscriminate operation. In his last 119 cases up to April, 1903, the mortality, irrespective of operation or any plan of treatment, was a little over 1.5 per cent. In cases treated without operation in which the attack was a mild catarrhal one, and the patient not operated on during the attack, the mortality was 0. In many cases the appendix was subsequently removed owing to repeated attacks, without any mortality. A gangrenous appendix rupturing into the peritoneal cavity with general peritonitis occurred in 11 of his cases. In cases where there was acute perforative appendicitis with gangrenous appendix in a circumscribed abscess cavity, the mortality was 7 per cent. Two fatal cases out of the 119 were hopeless from the start, but were operated on as offering the only chance. Without these the whole series gives no mortality. He would impress on the family physician the fact that appendicitis is essentially a surgical disease and early operations are almost always successful. The mortality can only be reduced by the hearty co-operation of the physician and surgeon.

2. **Infantile Diarrhea.**—Potter has sought to settle the question whether the kidneys are involved in the summer diarrhea of infants. He concludes that acute diarrheas—not protracted cases—are not accompanied by kidney involvement. Alcohol, therefore, is not injurious in this condition if it is necessary as a stimulant. Edema in the diarrhea of marantic infants is a bad sign, but not necessarily fatal, and it is not due to the heart or kidneys. The bad general condition is best treated by disregarding the diarrhea and increasing the strength of the proteid nutrition.

3. **Gall-Bladder Diseases.**—Schell's article is a general review of the diagnostic points of gall-bladder diseases.

4. **Calculus and the X-Rays.**—The special point of Leonard's paper is the use of the Roentgen rays in diagnosing renal and ureteral calculus. From a study of 300 cases referred for examination, he finds that calculi were found in 86, or about 28 per cent. In 46 of these cases, or over 50 per cent., the calculi were in the ureters. In 19 cases the patients passed the calculi after expectant treatment had been suggested by the Roentgen examination. Positive diagnosis was confirmed in all the cases except 5, and in these the operation was performed late, and it is possible that the calculi had passed away. He advises repetition of examination if the operation has been delayed, to make sure of the actual condition, and as to whether or not the cases still require operation. The negative diagnosis has been found as accurate as the positive. Where the Roentgen method shows no calculi present in the kidney, in-

cision, he thinks, is not justified unless some other macroscopic pathologic lesion is present. In favorable cases, that is, patients weighing under 140 pounds, detail can often be obtained of the soft tissue structures that will suggest some condition other than calculus that is present. Thus displaced kidneys and pus collections have been observed. His technic in calculus diagnosis is based on the axiom that where shadows less dense *than the least dense calculus are obtained,* no calculus should escape detection. He uses a self-regulating tube, which maintains itself at a low vacuum steadily during the entire exposure. The coil or source of energy must produce a large volume of Roentgen rays of low penetrating quality. The method has already rendered operation unnecessary in a number of cases, increasing the value and efficacy of operation, while lessening its dangers and minimizing the amount of operative lesion.

5. **Genito-Urinary Tuberculosis.**—Prioleau favors moderate elevation for cases of this class. There are cases that respond most readily to treatment at sea level. At no time should a patient with kidney tuberculosis be sent to an extreme altitude, as increased altitude adds to the work of the already inflamed kidney and does away with the benefit otherwise obtained. Moderate elevation is favorable to the patient, as he can return home with the least probability of its reappearing. Climate alone is not the only thing; he mentions over-feeding as one of the dangers in these cases. We must rely on hygiene and diet, and as an adjunct, use antiseptics and sedatives, always selecting a suitable climate for the patient the same as if his lungs were diseased.

### Medical Record, New York.

*January 9.*

7 *Etiology of Rheumatism: Obscurity, Insidiousness, Prevention [illegible] in Childhood. Joseph E. Winters.
8 *[illegible] Management of Fractures Involving the Joints. Virgil P. Gibney.
9 *The Principles of Diagnosis of Medical Malingering. John Punton.
10 Congenital Orbital Sarcoma of Endothelial Origin in an Infant. Operation and Preservation of Globe. Mortimer Frank.
11 *Mixed Anesthesia, with Special Reference to the Administration of Hyoscin Hydrobromate Before Ether. E. A. Robertson.
12 The Early Diagnosis of Pulmonary Tuberculosis. Floyd S. Clarke.
13 *A Simple and Accurate Method of Examining the Stools for Gallstones and Other Solid Bodies. Howard Lilienthal.

7. **Rheumatism in Childhood.**—Winters holds that rheumatism is due to the absence of potassium and sodium salts in the tissues. To supply this the alkalies in organic combination as produced by nature in fruits and foods, especially the vegetable acids, are required. He notes the obscure symptoms of rheumatism in children and its importance as bearing on cardiac involvement. To meet other physiologic requirements, animal food is requisite, but it should not exceed the needs so as to lead to over-stimulation and defective metabolism. To meet the rheumatic condition he would begin with calomel followed by rhubarb and soda, the latter to be persisted in as long as the tongue is furred, the soda to be given in 20-grain doses, t.i.d., before eating. Milk should be the sole food while the symptoms exist. The first extension of the diet should be the addition of a strained cereal, which should be given without the child's knowledge and should be taken without sugar. When animal food is added it should be in the form of meat, not broths or beef juice. Vegetable soups, bean, tomato, etc., are nutritive and appetizing. When all rheumatic manifestations have been dispelled, animal broths *on cereals* serve for stimulating the appetite. When the tongue is clean and the rheumatic symptoms banished, begin in due succession with strained cereals, *vegetable* soups, cereal as a vegetable, with butter and salt, baked potato, bread, green vegetable and fruit. The failure in the dietetic management in the past has been in the excessive use of broths, sugars and sweets, the use of alcohol, and the withdrawal of fruits and cereals.

8. **Fractures Involving the Joints.**—Gibney's paper, as he expresses it, is a plea for plaster of paris as a dressing for fractures, and a comparison of joint injuries from trauma and those from disease, the harmlessness of the one and the ravages of the other. He favors a careful study of the mechanism of the joints in setting the limb and a knowledge of the muscles involved, plaster applications to be based on these. The normal tendency of all joints damaged by trauma is toward flexion deformity, and it is important to recognize this factor, as, if left too late, it may be difficult to remedy. His attention has often been called to the too-shortened condition of the tendo Achillis due to the foot being in many cases put up in moderate extension. The fact of the unpopularity of plaster of paris he thinks is largely due to the little instruction that students receive in regard to its application, and the carelessness with which it is applied. He speaks against passive motion after fractures.

9.—See abstract in The Journal, xli, p. 1,041.

11. **Anesthesia.**—Robertson has employed hyoscin hydrobromate in connection with ether anesthesia in 57 cases of abdominal and other operations in adult women and with excellent results. He usually gives .01 of a grain of hyoscin hydrobromate hypodermically half an hour before the beginning of ether inhalation, causing dryness of the mouth, thirst and dilatation of the pupils, at which time ether is administered. The administration causes little secretion of mucus, the patients are less anxious, there is a tendency to sleep after recovery from the anesthesia, which is more rapid as a rule than when ether alone is given, and in no case was there any severe or prolonged after-vomiting. It was altogether absent in at least half the cases. In 55 cases the patient was absolutely quiet during the administration. In none of the cases was there any bronchitis following the ether or other respiratory disturbances. The hyoscin hydrobromate, he thinks, acts by counteracting the over-stimulating effect of ether, decreasing the amount of mucus, which obstructs respiration, etc. If it proves to be free from danger it will be a valuable aid in the administration of ether.

13. **Examining the Feces.**—Lilienthal fastens to a wire loop a bag of at least two thicknesses of gauze dressing or mosquito netting, which he places in the water closet receptacle as a sieve so that the free turning on of the water after defecation washes away all except the solid constituents and thus reveals, without the usual objectionable incidents of straining of the feces, the presence of gallstones, etc.

### New York Medical Journal.

*January 9.*

14 *Radium: Induced Radioactivity and Its Therapeutical Possibilities. Samuel G. Tracy.
15 Some Observations on an Unusual Case of Scurvy. Joseph Davidson.
16 The Treatment of a Certain Class of the Underfed. William S. Ely.
17 *Concerning the Accuracy of Percentage Modifications of Milk for Infants. (To be concluded.) David L. Edsall and Charles A. Fife.
18 *A Bacterial Treatment of Tuberculosis; with Reports of Cases. (Continued.) Stephen J. Maher.
19 The X-ray Technic of Dr. H. Albers-Schonberg. Eugene R. Corson.

14. **Induced Radio-activity and Its Therapeutic Possibilities.**—Tracy found by experimentation that normal salt solution was one of the best substances for the manifestation of induced radio-activity. He inserted into a bottle containing the solution two hermetically sealed tubes of radium bromid, leaving them for twenty-four hours, and then let the salt solution stand in the rack for twenty-four hours more. He then tested the fluid and gives the results in skiagraphs produced by its influence. It has suggested to him that the property radium possesses of imparting its activity to other fluids, for example, normal salt solution, seems to offer the hope that in this way it may be therapeutically administered, and the fight against bacterial disease affected through the agency of the fluid and lymph circulation and internal secretions. "Radium fluid," it is true, only holds this property temporarily, but the manufacture of it is so simple that when radium is more available than it is at present there will be no difficulty in keeping up the supply. The emanation will escape rapidly when the patient drinks the water, but the "active matter" which is produced, according to Professor Rutherford of McGill University, will remain with the water and produce radiations for a couple of hours, after which its intensity becomes very small. Tracy suggests that in this "radium fluid" we may have the

means of striking at the root of certain diseases, such as diphtheria, tuberculosis, typhoid, etc., also fermentative gastrointestinal indigestion, with its attendant auto-intoxication. Its local employment is also suggested. While the results may not realize these anticipations, it is certainly worth while, he thinks, to try the experiments.

17. **Milk Modifications.**—Edsall and Fife have examined various milk-mixtures, estimating the fat and proteid as agreeing with theories, and found that in the first series of home modifications, made of certified milks and creams by persons of intelligence, the proteid content was satisfactorily accurate, the widest variations from the standard being small, .2 of 1 per cent. The fats varied widely, with errors from .8 to 1.6 per cent. in this small series. (The article is to be concluded.)

18. **Tuberculosis.**—This installment of Maher's article is entirely given up to the reports of cases.

### American Medicine, Philadelphia.

*January 9.*

20 *Amputation at the Hip-joint for Sarcoma. With a Report of Seven Cases Without Mortality; Subsequent History of Patients. William B. Coley.
21 *Can Our Procedures for the Judicial Determination of the Cause of Death Be Bettered? Solomon Solis-Cohen.
22 *Observations on Uncinariasis. Louis M. Warfield.
23 *Results of an Experimental Treatment of Epileptic Insanity. J. W. Wherry.
24 Care of Sputum of Tuberculous Patients. J. W. Kime.
25 *Ithaca Epidemic of 1903. Luzerne Coville.

20.—See abstract in THE JOURNAL of January 9, p. 118.

21. **Causes of Death.**—Solis Cohen notices the difficulties appertaining to the judicial determination of the cause of death and suggests a jury of experts, 5 to 7, selected to meet the conditions in question. In deciding as to the cause of death they should not be required to reach a unanimous verdict, but a majority and minority report; several minority reports or individual jurors' reports in extreme cases might be handed in. Of couse, the unanimous verdict would be the one to be preferred, but this method would be more apt to bring about the truth and aid justice.

22. **Uncinariasis.**—Warfield, from his observations in Georgia, concludes that there is a direct relation between the so-called ground itch and uncinariasis, but he does not assume that the parasite necessarily finds its way to the blood directly through the skin, while he can not deny this possibility after Loos' conclusive experiments. The mode of infection, he believes, is by children scratching the itching surface and introducing the embryo afterward by the fingers into the mouth. Uncinariasis is one of the commonest diseases of the south, and its introduction by any other method in children is improbable. Its prevention lies in the use of latrines easily cleansed and disinfected, and thoroughly closed from access by barnyard fowls, etc., and the general education of the medical profession in the country districts as to the nature and prevention of the disorder.

23. **Epileptic Insanity.**—Wherry reports a new method of treatment inaugurated in the Clarinda State Hospital of Iowa, in which, instead of the bromides, the vasodilator drugs are employed and with most excellent results. The fundamental principle is the combination of vasodilating drugs with saline cathartics and an alterative, the principal ingredients to be left to the judgment of the attending physicians. The results are significant in view of the theory that the disease may be due to a vasomotor spasm. He tabulates his experience, showing a number of fits before and after treatment which seemed to indicate the value of the method.

25. **The Ithaca Typhoid Epidemic.**—Coville gives a brief history of the progress of the Ithaca epidemic and its causes, calling attention to certain peculiar features, among which he enumerates the absence of sure causal proof, the sharp onset and abrupt termination of the epidemic, the large number of typical cases and the cyclic recurrence of the symptoms after fourteen days' interval. Many cases were severe and septic, but there was a relatively small number of relapses in the typical ones. The drinking of city water seemed to be the most obvious cause; the milk supply had not been infected. Infection by other sources was not observed. The death rate was much higher in students than among the townspeople; physicians and trained nurses were practically immune. The total death rate under the conditions was low, 6.6 per cent. All the physicians had practically the same average. The number of cases, over 1;300, and probably over 1,400, was notable.

### Boston Medical and Surgical Journal.

*January 7.*

26 *Obstetrical Nursing. A. Worcester.
27 *Some Questions Relative to Extrauterine Pregnancy, with Especial Reference to Tubal Abortion. Malcolm Storer.
28 *Typhoid Fever in Children. (Concluded.) Adolf Baginsky.
29 The Finsen Light Cure. H. John Stewart.

26. **Obstetric Nursing.**—Worcester advocates the trained obstetric nurse with an education that is required for the skilled midwife, though it is not expected that she will act as such. He thinks the more training the nurse has the less likely she will be to assume responsibility of obstetric cases. The obstetric nurse should be expected to exercise precautionary surveillance during pregnancy, to manage the first stage of labor, to recognize any abnormal occurrence and to be able to conduct a normal labor, to apply appropriate preliminary treatment in emergencies, and, in confinement, to care for both mother and baby intelligently. A hospital training alone will not fit the nurse for home obstetric work. She has had no experience with anxious husbands, terrified children and cranky servants. The modern hospital nurse often distorts and magnifies the normal condition into an unnatural and extraordinary experience.

27. **Extrauterine Pregnancy.**—The typical classical symptoms of extrauterine pregnancy are not usually present, according to Storer, and he gives illustrations of this fact. He places no special importance on symptoms of anemia, expulsion of decidual tissue and amenorrhea, which may all occur without it. In fact, the condition itself may be symptomless. Of course, the further advanced the condition the easier the diagnosis becomes. The symptoms he considers of chief importance are pain and anomalous escape of blood from the uterus. The pain is different from that of ordinary menstruation, short-lived, often stabbing, not colicky or anything like as severe as that due to rupture of the tube. It may be accompanied with nausea without vomiting. There is more or less protracted metrorrhagia, as a rule. Patients are apt to pay little attention to this pain, thinking it due to ordinary miscarriage and so on, and do not come under observation until some weeks later, and then on account of the pelvic peritonitis that results. In his experience ectopic pregnancy is not so apt to occur exclusively in multiparæ after a protracted secondary sterility. In 41 per cent. of his cases the patients were primiparæ. As regards treatment he asks five questions: 1. Whether a case seen immediately after rupture—in collapse and acute and profound anemia—should be immediately operated on? He favors immediate operation. 2. With a diagnosis of probable unruptured extrauterine pregnancy is it better to operate at once or wait until the diagnosis is certain? He thinks a reasonable probability implies operation. Certainty generally comes only with rupture. 3. Given a tubal abortion a month or two before the patient is seen, is it better to operate, supposing a mass can be felt, or allow nature to take care of it? He thinks nature will usually take care of it after a longer or shorter period of pelvic peritonitis with pain if nothing worse, but it is more surgical and certain to clear out the pelvis in such a way as to remove the old clots, break up adhesions, patch up the tubes, etc. 4. Whether it is better to operate from above or below? He thinks that undoubtedly surgeons of greatest experience in vaginal celiotomy may prefer that method, but he has never been one of them, and is not likely to become so. As regards the fifth question, what to do with extrauterine pregnancy at full term, he has had no experience. The decision as to how to treat the placenta is about as difficult a one as the surgeon has to make. Of course, if the main blood supply can be cut off, it simplifies matters, but even then it is by no means easy, and those who have removed the placenta in cases where the child is alive describe it as a nightmare. Another point he makes is in regard to the after-history. He thinks extrauterine pregnancy may readily be followed by a

normal one, though the possibility of a second abnormal pregnancy must be borne in mind. In conclusion he says he has left the question of diagnosis in a rather unsatisfactory condition, but can not help it. In many cases a positive diagnosis is out of the question. The let-alone-and-wait plan will never work. If you do not find an extrauterine pregnancy there will probably be some other trouble that will be bettered by operation.

28. **Typhoid Fever in Children.**—Baginsky's paper is concluded in this issue, describing the symptoms, abnormal forms, complications, diagnosis, prognosis and treatment. The respiratory organs are always more or less involved. The nervous symptoms may be severe, though usually not so pronounced as in adults. Digestive abnormalities are prominent. The urine is scanty and of high specific gravity. The roseola is rarely lacking. The shortest forms of typhoid often occur in children and are characterized by slight gastric disturbance, somewhat typical typhoid tongue, moderate fever with evening exacerbations and positive urinary and blood reactions, but the most significant thing is the occurrence of other cases at the same time. Children are more predisposed to relapses. Complications have been recently shown to be generally due to the typhoid bacillus, especially respiratory complications, which are perhaps the most frequent. The diagnosis is easy as the case progresses, though the difference between typhoid and miliary tuberculosis is often difficult. The prognosis is usually favorable, though affected seriously by pneumonia and parotitis or other infectious diseases. As regards treatment, he remarks that children with typhoid can not stand very cold baths, and the permanent lukewarm bath after the Riess method is principally to be recommended. The child is laid on a sheet which is spread out in a tub beneath the surface of the water and remains there for hours or days, according to the height of the fever. Children bear the cold pack well, and it may be well substituted for the cold bath. If possible, limit the antipyretic treatment to external methods, but if quinin is used it should be given in pretty good-sized doses. Salicylate of soda, phenacetin, etc., may be very cautiously used, but these remedies depress the heart's action and may become dangerous. Proper nursing is important. He does not restrict the feeding to milk, but all solid food is forbidden. Bouillon, wine, yolk of eggs with water, milk, somatose, and cornstarch preparations are among the foods that may be given. Diarrhea is best treated with bismuth or similar drugs, and intestinal hemorrhage with cold applications externally with cold nourishment and liq. ferri sesquichlorid (3 to 5 per cent.) or gelatin solution. The respiratory organs need especial attention, and in case of otitis media it is not wise to delay long before resorting to paracentesis of the tympanum. Hypnotics may be required and chloral hydrate is best. The bromids have little effect. If there is pus in the urine, urotropin is good, giving 15 to 24 grains per day to render the urine aseptic. Complications such as periostitis, decubitus, etc., must be treated on general surgical principles. During convalescence it is particularly important to watch carefully the action of the digestive organs. Great care must be used in passing from the liquid to a solid diet and particularly to a meat diet. It is not safe to give meat for at least a week after the temperature is normal.

### Cincinnati Lancet-Clinic.

*January 9.*

30 *A Few Considerations on the Etiology and Pathology of Cutaneous Cancer. (To be continued.) A. Ravogli.
31 Diphtheria. E. W. Mitchell.
32 Gynecology in Lawson Tait's Old Home. Magnus A. Tate.

30. **Cancer.**—Ravogli does not consider skin diseases like eczema, psoriasis, lupus, etc., as pre-cancerous states. If they have any relation to the cancer it is only because they are concerned in the production of abrasions and diminish the vitality of the tissues, thus favoring the admission and development of the germs. The one form of pre-cancerous condition which he mentions particularly is the so-called pre-cancerous keratosis, which must be considered as the earliest superficial demonstration of the growth. He favors, as seen from the above, the parasitic theory, which he thinks is the only one supported by facts, and he can not believe that the pre-existing tissues can take on malignancy alone. The production of cancer can not, he says, occur solely from the mistaken place of a few epidermic cells. There must be some other reason. Another point in favor of the parasitic theory is the innoculability of cancer, which he thinks has been demonstrated. (The article is to be continued.)

### St. Louis Medical Review.

*January 2.*

33 *The Acquisition of Tuberculosis in Infancy. E. W. Saunders.

*January 9.*

34 *Serum Therapy in the Treatment of Tuberculosis. Joseph B. Hardy.

33. **Tuberculosis.**—Saunders discusses the infection of tuberculosis, especially from cattle, admitting the possibility at least of skin infection, and rather favoring the opinion that alimentary infection is one of the most important methods of introduction of the germs in infancy. It seems, he says, that established facts as well as possibilities should compel admission that the bovine bacillus is virulent to man, and also a modified assent to Behring's statement. That alimentary infection in childhood is a prolific source of later manifestations of tuberculosis, especially in the bones, Saunders thoroughly believes. As regards the question whether bovine tuberculosis is less or more malignant in its course than infection from the human bacillus when introduced into the system, he thinks there is no evidence available to satisfactorily answer it. He has had one or two cases where he has suspected the communication of tuberculosis from one individual to another, but in these cases there was also the possibility of alimentary infection. He thinks the practical lessons are to pasteurize all milk given in the first quarter of infant life, when the permeability of the mucous membrane is so great. After that we should use a mixed diet, but raw or underdone beef and, above all things, smoked sausage should be prohibited to children.

34. **Tuberculosis.**—Hardy advocates the use of anti-tubercle serum. It is of greater value in early life than past the age of 30, and in acquired tuberculosis than that with hereditary predisposition. After the lung tissue has broken down and cavities formed it seems to do little good. No one need regard it as a curative agent like diphtheria antitoxin. He thinks the unfavorable impression of the profession about it is due to its improper use and the fact that it has been employed only as a last resort. In addition to the hypodermic treatment he uses, of course, other medicines where indicated.

### Medical Age, Detroit.

*December 25.*

35 *Personal Experiences in Angina Pectoris. M. B. Smith.
36 Preliminary Report of a Case of Morbus Addisonii. N. E. Aronstam.
37 *Traumatic Neuroses. Frank A. Ely.

35. **Angina Pectoris.**—Smith reports his own case and the success he has had with a carefully regulated life and the avoidance of irritation. He has found no drug or treatment that seems to do him any good, but a careful avoidance of strain and exertion, of people that irritate and annoy him, and of temper explosions, etc., has made life endurable. He has had no attack for a number of years.

37. **Traumatic Neuroses.**—The importance of these conditions and their connection with organic lesions are noted by Ely, who emphasizes the following points:

> 1. Nervous symptoms similar to those met with in traumatic hysteroneurasthenia may be noted as the result of sudden and intense mental strain, unassociated with traumatism. 2. Clinical experience and a few isolated postmortem findings indicate that microscopic lesions of the brain and cord may result from traumatism without external evidence of violence. 3. Although we know these minute lesions are often present, our knowledge of their effect is as yet insufficient to enable us to differentiate between cases in which they do or do not exist, and their possible presence does not necessarily influence our prognosis. 4. Hysteria must be looked on as a true disease, which may be brought on by traumatism, and which may bring more trouble into a home than a broken limb or a sprained back.

### University of Pennsylvania Medical Bulletin, Philadelphia.

*December.*

38 *Two Years' Experience in Gastroptosis. J. Dutton Steele and Albert P. Francine.
39 *A Case of Solitary Tubercle of the Pons. Remarks on the Pathway for Sensations of Taste from the Anterior Portion of the Tongue. Charles S. Potts. With Pathological Report and Remarks on Palsy of Associated Ocular Movements. William G. Spiller.

40 Rupture of the Quadriceps Extensor Tendon, with Report of a Case. Henry Norris.
41 Tuberculosis of the Parotid and the Possibility of Infection Through the Tonsils. George B. Wood.
42 Treatment of Fractures of the Radius Between the Insertions of the Pronator Muscles. J. Rex Hobensack.

38. **Gastroptosis.**—From an observation of over 100 cases of gastroptosis, Steele and Francine conclude that in gastroptosis certain cases are relieved so promptly by external mechanical support, without other treatment beyond dietetic, that the downward displacement of the pylorus must be regarded as the primary or at least the principal factor in the causation of the symptom-complex. In their series the cases of this character showed a moderate diminution of HCl, were free from organic disease, and had no signs of dilatation or impaired motility. The symptoms were gastric fermentation, frontal headache, with sensation of dragging and lack of support in the abdomen. Gastroptosis may exist absolutely without symptoms. This is shown by the findings in the routine examination of other morbid states. Such patients were not benefited by external support. Gastroptosis may also form a part of the symptom-complex of other morbid states, such as gastric neuroses from nerve exhaustion due to overwork, gastric motor insufficiency, dilatation and passive gastric congestion from weakness of the cardiac muscle. Here the downward displacement of the pylorus is an important complication which is shown by the relief and comfort derived from mechanical support. That it is a complication, however, is shown by the fact that no considerable relief is obtained without treatment directed to the primary condition. The value of external mechanical support as a means of treatment is shown by the fact that all primary and uncomplicated cases recover completely under its use. Effectual mechanical support applied over long periods does not permanently restore the stomach to its normal position, as shown by examination in 18 cases, but the support of the stomach seems to produce some change, for it enables the organ to successfully perform its function in spite of a certain degree of displacement. These changes are probably compensatory. The larger part of the paper is devoted to a report of cases.

39. **Tubercle of the Pons.**—Potts and Spiller's case was examined after suicide. The symptoms indicated a lesion of the left side of the pons. The presence of paralysis of the lateral conjugate movement of the eyeballs toward the left made almost certain the diagnosis of a growth implicating the left half of the tegmentum of the pons. The diagnosis was confirmed by the necropsy. Spiller emphasizes the importance of this paralysis of the lateral associated movement of the eyeball in the clinical diagnosis as a sign indicating intrapontile tumor. He would hesitate to recommend operation for the removal of a pontile tumor with this form of ocular paralysis. Its absence, however, is no proof that the pons is not invaded, but merely that the posterior longitudinal fasciculus is intact.

### Journal of Medical Research, Boston.

*December.*

43 *Observations on the Morphology of Bacillus Tuberculosis from Human and Bovine Sources. S. B. Wolbach and Harold C. Ernst.
44 A Hitherto Undescribed Fibrillar Substance Produced by Connective-tissue Cells. F. B. Mallory.
45 *On the Appearance and Significance of Certain Granules in the Erythrocytes of Man. Victor C. Vaughan, Jr.
46 *A Study of Volume Index. Observations on the Volume of Erythrocytes in Various Disease Conditions. Joseph A. Capps.
47 Influence of Certain Bacteria on Coagulation of Blood. Leo Loeb.
48 Bacterium Pyogenes Sanguinarium. N. L. Berry, Jr., and Harold C. Ernst.
49 Observations, Especially with the Roentgen Rays, on the Artificially Deformed Foot of the Chinese Lady of Rank, in Relation to the Functional Pathogenesis of Deformity. Percy Brown.
50 Methods of Treatment of Congenital Dislocation of the Hip. E. H. Bradford.
51 Resistance of the Muscle in Reducing a Congenitally Dislocated Hip. E. H. Bradford and L. T. Wilson.
52 Mechanism for Reducing Congenitally Dislocated Hips. Ralph W. Bartlett.
53 On the Output of Ammonia in the Course of Different Forms of Insanity. P. A. Levene and L. B. Stookey.
54 The Passage of Tubercle Bacilli Through the Normal Intestinal Wall. (A Preliminary Report.) Mazyck P. Ravenel.
55 *The Occurrence of the Colon Bacillus on the Hands. C. E. A. Winslow.
56 Protozoa in a Case of Tropical Ulcer ("Delhi Sore"). James H. Wright.

43. **Bacillus Tuberculosis.**—Wolbach and Ernst have studied the tubercle bacillus in various cultures, and remark on the variations of the form and staining reaction, greatest in the rapidly-growing cultures. They agree with Coppen-Jones that favorable media and free access to oxygen tend to branched and filiform forms. The only interpretation of the great diversity of form assumed under the most favorable conditions is that the bacillus is truly pleomorphic, and should be classed among the higher bacteria.

45. **Granules in the Red Blood Cells.**—Vaughan describes certain granular bodies observed in red cells in certain conditions which he considers can not be artefacts, as they do not increase on allowing the specimen to stand. They can not be due to alteration of the hemoglobin content of the cell because where they are most abundant the hemoglobin is normal in appearance and distribution. Experimental evidence tends to the probability that they are remnants of a nucleus that has disappeared throught a process of karyorhexis or karyolysis. Their importance depends on whether they are present in a large proportion of cells. When they are present in a larger proportion than normal in the circulating blood, the same value can be attached to them under certain limits as is given to the finding of nucleated red blood-corpuscles. An increase of the granular cells to 9 or 10 per cent. of the total number would indicate a marked departure from the normal, and would probably not occur in the absence of nucleated forms that later might reward the search. In secondary anemia, however, the high percentage of granular cells would be looked on as a favorable sign indicating a state of blood regeneration, whereas in pernicious anemia its prognostic value would be practically *nil*. The rise of blood count and the hemoglobin index would be more important. These granules are easy of recognition by the method described, that is, the use of Unna's polychrome methylene blue as prepared by Grübler, which shows not only these but nucleated cells. The facts would seem to warrant the notion that their determination must be of some value in the clinical study of the blood.

46. **Volume Index.**—This expression designates the size of the erythrocytes in comparison with the normal. Capps found that the cell volume is invariably increased in pernicious anemia, more so usually than the Hb content of the cell. This heightened volume index is a more constant and trustworthy sign of pernicious anemia than the increased color index. Moderate cases of secondary anemia show only a slight loss of cell volume, but if of high grade the cell becomes small and atrophic. In a small group of secondary anemias the low color and volume indices of chlorosis appear, but later the blood turns macrocytic with high volume and color values, a type which resembles that of pernicious anemia. In a large proportion of chlorotics the cell volume suffers as well as the Hb, though to a less extent. The volume is of great significance in the prognosis. Cases with a low volume index respond slowly to treatment, and the cell volume has as much to do with the improvement as the Hb content. In all anemias the color loss is greater and takes place more rapidly than the loss in volume. In recovery the volume is restored before the color. The Hb content of normal erythrocytes represents the point of saturation of protoplasm. When the color index rises above 1 we may assume a corresponding increase has taken place in the cell volume, excepting in jaundice, where the color test is unreliable. Supersaturation of the cell protoplasm with Hb probably does not occur, but the cell may lose its Hb without necessarily losing its volume. The volume seems to be chiefly altered by the influences affecting cell growth or degeneration. The large erythrocytes of pernicious anemia are probably young cells. Small cells may result from malnutrition of the bone marrow, as in chlorosis, or from actual degeneration, as in sepsis. The cell volume suffers very little change from osmotic influences, according to Capps' observations. Dropsy, cyanosis, hydremia following hemorrhage and jaundice (with some exceptions) do not materially alter the form volume of the cells. He has

never noticed the "acute swellings" described in dropsy, hemorrhage, jaundice and chlorosis. The volume of the individual erythrocyte is best obtained by using the centrifuge in connection with the hemacytometer.

**55. The Colon Bacillus on the Hands.**—In 111 persons examined by Winslow the colon bacillus was found on the hands in 10. In one experiment, children whose hands were especially dirty were taken, but in all the other cases the subjects were chosen at random. Excluding the selected children, 4 positive results were obtained from the hands of 48 children. Of 35 technologic students 2 gave positive results, of 16 servants and janitors 1 gave a positive result. It appears, then, that the colon bacillus was normally present on the hands of between 5 and 10 per cent. of the persons examined. This makes it easy to see how readily the typhoid bacillus may be transmitted by the hands of those affected with the disease or their attendants.

### Buffalo Medical Journal.

*January.*

57 *Typhoid Gangrene of the Lower Extremities. One Hundred and Thirty-four Cases—Spontaneous and Surgical Amputations—A Historical Résumé. B. Merrill Ricketts.
58 *Influence of the Leucocyte Count in the Decision for or Against Immediate Operation. E. S. Van Duyn.
59 Keratoconus. G. Griffin Lewis.
60 The Pathology of Asthma with Special Reference to Its Vicious Circle. G. N. Jack.
61 *A Plea for a More Conservative Treatment of Appendicitis. F. W. Higgins.

**57. Typhoid Gangrene of the Limbs.**—Ricketts gives the statistics of 134 cases reported, together with one of his own personal observation. He insists on early amputation, high enough to be above all the gangrenous tissue. Spontaneous amputation, as a rule, should not be encouraged except, perhaps, in a few cases in the aged, where both extremities are involved in dry gangrene, slow in development, and the debility is such that surgical anesthesia is contraindicated. If the line of demarcation is sharp and amputation can be done rapidly above the knee or ankle, without surgical anesthesia, spontaneous amputation should not be considered. Of the 134 reported cases, 100 were male and 34 female. There were 128 surgical and 3 spontaneous amputations, 3 not stated; 15 of both limbs, 41 of the right leg, 20 of the left leg, 15 of both feet, 18 of the right foot, 16 of the left foot, 5 toes, one hand and toes, 3 middle thigh, 3 of the upper thigh, 2 of the lower thigh, 3 both thighs, 30 dry and 2 moist gangrene, 112 not stated. There were 6 recoveries with operation, 1 with no operation; 34 deaths without operation; 22 deaths with operation and 12 unknown.

**58. The Leucocyte Count.**—Van Duyn has tabulated 50 consecutive cases, which he analyzes in his paper, reporting 2 in detail. He is inclined to consider a leucocyte count over 10,000 or 15,000 as high, below that as normal. If it is above 10,000 to 15,000 he would always advise immediate operation, however mild the other symptoms may be, especially if the leucocytosis seems to be increasing, but if other symptoms pointed strongly to the necessity of intervention, a low leucocyte count should not deter from operation. While it is of great assistance, the knowledge obtained from other signs and symptoms present loses none of its weight, and all should be carefully considered.

**61. Appendicitis.**—Higgins would treat most cases of appendicitis as medical, carefully watching them and operating when indications demand after careful, unprejudiced consultation. The interval operation should be recommended after a second attack.

### American Journal of the Medical Sciences, Philadelphia.

*December.*

62 *The Anatomical Basis of the Argyll-Robertson Pupil. Henry M. Thomas.
63 *A Contribution to the Surgery of Cerebral Tumors. George Woolsey.
64 Multiple Sclerosis with Dementia: A Contribution to the Combination Form of Multiple Sclerosis and Dementia Paralytica. J. Ramsay Hunt.
65 *Tumors of the Sigmoid Flexure. C. A. Ewald.
66 *Concerning the Nature of Certain Cases of Chronic Polyarthritis. David L. Edsall and Ralph S. Lavenson.
67 *Clinical Lecture on the Symptomatology and Treatment of Trifacial Neuralgia. Charles H. Frazier.
68 A Death During General Anesthesia with Ethyl Chlorid. Francis O. Allen, Jr.
69 A Case of Infection of the Epididymis and Tunica Vaginalis by the Friedländer Bacillus. Eugene P. Bernstein.
70 *A Case of Epiphenomena of Diphtheria Antitoxin. James P. Marsh.
71 A Case of Probable Primary Carcinoma of the Lung. Arthur Bremken.
72 *The Movements of Superior Intercostal Muscles in Hemiplegics. L. Pierce Clark.
73 *A Note on the Foot of the American Negro. Albert H. Freiberg and J. Henry Schroeder.
74 *Studies on the Antagonistic Action of Drugs. H. D. Haskins.
75 *Blood Changes in Dementia Paralytica. A. R. Diefendorf.

**62. The Argyll-Robertson Pupil.**—Thomas discusses the physiology of innervation of the pupil and pupillary reaction, but comes to no positive conclusion in regard to the mechanism, as our knowledge of the sympathetic nervous system is too inexact. He is inclined to favor Langley's idea that the ciliary ganglia can hardly act as a reflex light center in these cases, as maintained by Marina. It would appear that he still thinks that possibly the evidence is in favor of a more central mechanism.

**63. Cerebral Tumors.**—From a study of 101 cases reported in the last five years, Woolsey concludes that more recent experience indicates that the sphere of operation for cerebral tumors has been extended to those parts of the cortex where tumors are accessible and localizable, that is, to the prefrontal, the parietal and occipital regions, in addition to the motor area. That the prognosis, both immediate and remote, is as good or even better than any operation for malignant growths in some other localities. It has improved with the improvements in localization and operative technic, and with the limitation of the radical operation to cases accurately localized. Palliative operation is indicated to relieve the symptoms where localization can not be accurately made or the tumor be removed, but exploratory operations are contraindicated. Practically all circumscribed growths are amenable to operation. The osteoplastic method should be employed and the most rapid and perfect technic, with complete asepsis.

**65. Tumors of the Sigmoid Flexure.**—Ewald here notices the tumor due to fecal accumulations and the malignant growths which may be confined to the sigmoid or extend upward from the rectum. In the latter case they should always be detected, but are sometimes overlooked. In many cases obstruction suddenly occurs with its characteristic symptoms. Often the physician will be led to believe he has a strangulation, volvulus or intussusception, when operation reveals a tumor. The neoplasm may grow into the lumen of the intestine, causing no thickening and being hardly possible to palpate. Such a growth may lead to no symptoms until suddenly obstinate constipation occurs, due to narrowing of the lumen, which becomes blocked. Such attacks may frequently recur until cathartics are of no use. The general condition is not affected as much as in other cases of acute obstruction. He mentions a case in which he diagnosed carcinoma of the sigmoid on account of there having been four attacks of constipation with pain, moderate distension of the abdomen and marked distension in the left iliac fossa, moderate pain in this region recurring at regular intervals, radiating outward from the sigmoid, the rectum negative, and the impossibility of introducing water or air in large quantities into the intestines, in spite of the unchanged general condition. The urine contained indican. The operation showed a circular carcinoma with a corkscrew canal large enough to pass a knitting needle. All these cases, however, he says, when they have symptoms, are comparatively easy to recognize, but there is a class of neurospastic pseudotumors which occur sometimes in hysteria, or as a pure neurosis, or in connection with other nervous diseases. They may prove very difficult to diagnose, especially when the characteristics of the stools and general condition are similar to that of carcinoma. It is also possible for swelling of the colon to occur in the left iliac fossa with a tumor in another portion of the intestine. He gives illustrative cases. There are, of course, other tumors in this region, such as those originating from the intestine and appendages, from local peritonitis, etc., but he does not discuss these, concluding with remarks on auto-intestinal intoxication as the result of constipation. The symptoms may be acute in onset, very severe in appearance, and accompanied with more or less diminished sensorium of the patient. There may be a paralysis of the extremities, complete absence of the patellar reflexes, involuntary micturition and defecation, with every sign of a severe central brain disease, but differing from it by the bilateral paralysis; from meningitis by absence of the neck rigidity and pupillary symptoms; from disease of the spinal cord by the occasional occurrence of coma. The use of irrigations of lukewarm oil or hot water brings away masses, and, together with lavage of the stomach, the whole picture becomes suddenly changed. He thinks such attacks undoubtedly arise as a result of absorption of toxic agents produced by putrefaction in the intestinal tract. In two cases he has found the aromatic sulphates markedly increased.

66. **Chronic Polyarthritis.**—Edsall and Lavenson have used the tuberculin test in 18 cases of chronic polyarthritis and find positive reactions in 7 cases, with 3 dubious ones. They think that these furnish strong presumptive evidence in favor of Poncet's view that many cases of polyarthritis are of tubercular origin.

67. ***Trifacial Neuralgia.***—*Frazier concludes with the following:*

1. In all incipient cases remove the predisposing cause and administer strychnin *hypodermically* in heroic doses under proper precautions, and with such adjuvants as have been suggested. 2. In cases that do not respond to this mode of treatment, where the pain is referred to but one branch, recommend the peripheral operation, even though the operation may have to be repeated. It will afford relief, at least *temporarily, in every case, and in some cases* permanently. 3. When the peripheral operation has failed to afford but temporary relief, even though it may have been properly executed and repeatedly performed, or when from the onset the pain is referred to two or more branches, recourse should be had at once to an intracranial *operation*: either division *of* the sensory root or, in certain selected cases, division of the second and third divisions, with interposition of a foreign substance to prevent reunion.

70. **Diphtheria Antitoxin.**—Marsh reports a case to show that injection of antitoxin is once in a while followed by alarming symptoms. The patient became almost cyanosed and semicomatose, had subsequently a numb feeling, pain in the epigastric region and vomiting, and immediately thereafter a severe stinging, itching rash came out all over the body. It took about thirty-six hours for this urticaria to disappear. He thinks a large dose would have been fatal in this case. This, he thinks, was due to an idiosyncrasy of the patient to anything coming from a horse, which was notable in her history otherwise. She was always seized with unaccountable sneezing attacks when driving behind a horse.

72. **The Respiratory Symptom in Hemiplegia.**—Clark has examined 161 cases of hemiplegia to make certain the constancy of the respiratory symptoms noted by Jackson. He observed that automatic overaction was greater on the paralyzed side, and that the reverse was the case in volitional respiration, and found that this phenomenon was constant. The difference in the cases is only one of degree. He discusses the explanation of the symptom on the basis of Spencer's work as to the respiratory centers, and emphasizes the necessity for more information in regard to the location of these centers by degeneration experiments.

73. **The Foot of the Negro.**—Freiberg and Schroeder have examined a number of colored persons' feet and find that flattening of the arch of the foot, from the data obtained, is more frequent in the negro than in the white. Hallux valgus is also more frequent, but, nevertheless, well-arched feet appear sufficiently frequently to establish them as normal. In the negro child the normal foot preponderates. They therefore infer that the flat foot of the adult American negro is an acquirement due to the deforming effect of footwear of improper construction.

74. **The Antagonistic Action of Drugs.**—Haskins, at Sollman's suggestion, has studied the question whether a drug which excites a given structure can remove the effects of another drug which depresses it. Alcohol and strychnin were first suggested as the subject of investigation, but were found unsuitable, as alcohol does not produce the effects credited to it, and strychnin does not prevent alcoholic excitement. Haskins therefore studied the effect of the simultaneous action of stimulation and depressants on yeast cultures, using various degrees of heat as a stimulant and contrasting it with the depressing action of strychnin. The results show that the antagonism is not as simple a phenomenon as would be expected if the stimulant action of heat neutralized the depressant action of strychnia. They are more in agreement with the complicated condition which would occur with superimposition of stimulation and depression. It must be granted, however, that stimulation by heat may be of a different nature from stimulation by drugs. There may be various types of physiologic antagonism among drugs. These matters can not be settled until a large number of antagonisms have been studied. The experiments with alcohol were mainly tried *on cats and are given in detail. The conclusions are:*

1. Strychnin does not seem to affect the pulse when given simultaneously with alcohol. 2. In some cases strychnin seems to counteract in part the depressing effect of acute alcoholic poisoning on the respiration, and thus prolong life. The one apparent exception is doubtless explained by the poor physical condition of the cat receiving strychnin, and by the small dose. 3. Strychnin does not seem to interfere materially with the narcosis from acute poisoning with alcohol, but, apparently, does delay the onset of paralytic symptoms. 4. In subacute alcoholic poisoning strychnin seems to lessen the narcosis and paresis in the earliest stages, but in the later stages to increase the depression. However, a general conclusion is hardly justified, since only one control experiment was made. 5. Although in no case was the strychnin competent to completely remove the effects of the large doses of alcohol which were employed, yet it may be considered probable that appropriate doses of strychnin (fairly strong therapeutic doses) would prove useful in the treatment of poisoning from even lethal doses of alcohol. 6. No action on the nerve cells by either alcohol or strychnin was demonstrable histologically. 7. Many drugs depress the activity of yeast cells, but no reliable stimulant was found; therefore, the antagonism of drugs in their action on these cells could not be studied. 8. Heat was found to be a reliable stimulant up to 45 C., but strychnin as an antidote to heat did not give uniform results at the successive temperatures, so that the antagonism is not a simple one.

75. **Blood Changes in Paresis.**—Diefendorf has studied the blood changes occurring in paresis in the 11 cases here reported. He concludes that the disorder is accompanied with moderate progressive anemia, involving especially the hemoglobin, and becoming more marked as the disease progresses. The terminal stage of the disease is accompanied by a rise in the hemoglobin, erythrocytes, and a leucocytosis. Paralytic attacks are accompanied by a leucocytosis. Throughout the disease process there is a pathologic increase of polymorphonuclear leucocytes which reaches its height during the terminal state. States of paretic excitement, stupor or quiescence, not terminal, have no characteristic blood changes. The presence of leucocytosis accompanying the terminal state and paralytic attacks is significant evidence in favor of the toxic origin of the disease.

### The Cleveland Medical Journal.

*December.*

76 *Wounds from Blank Cartridges. Observation on 16 Cases Cared for at Lakeside Hospital Together with a Bacteriological Report. Dudley P. Allen and A. L. Ludlow.
77 Suggestion and Therapeutics. R. H. Grube.
78 The Care and Treatment of Crippled and Deformed Children. Walter G. Stern.
79 Sanitary Legislation Affecting Schools. L. K. Barker.

76.—See abstract in THE JOURNAL, Dec. 5, 1903, p. 1429.

### Illinois Medical Journal, Springfield.

*January.*

80 *Hernia of the Ovary, Appendix and Diverticulum with Abscess. Carl E. Black.
81 *The Indications for the Use of the Tampon in the Treatment of Postpartum Hemorrhage. C. S. Bacon.
82 *Utility of Intestinal Antiseptics in Typhoid Fever. N. S. Davis, Jr.
83 Some Factors in the Spread of Typhoid Fever. Frank H. Russell.
84 *Euphthalmin as a Mydriatic for the General Practitioner. Albert B. Hale.

80. **Hernia of the Ovary.**—The case described by Black was not in its clinical symptoms as serious as the actual conditions showed. The patient was induced to submit to operation only after much urging. The sac was examined and found to contain a small mass which was undoubtedly the ovary, and a considerable cavity associated with it containing pus. Meckel's diverticulum projected into the cavity, and the intestine was in such a bad condition from contact with the pus cavity that several inches of it had to be resected

and united by end-to-end anastomosis with the Murphy button. A still further examination of the cavity revealed the appendix, which was gangrenous and ruptured. The ovarian hernia, Black thinks, was, perhaps, congenital; the presence of the diverticulum was only an incident. The disorganization of the diverticulum and intestinal wall was caused by the contact with the abscess caused by the ruptured appendix.

81. **The Tampon in Postpartum Hemorrhage.**—Bacon concludes that the tampon can be used in postpartum hemorrhages as a carrier of styptics to cause coagulation of blood in cases of inherited or acquired hemophilia, to control postpartum hemorrhage in placenta previa, and also to control the bleeding from cervical lacerations where surgical interference is impossible.

82. **Typhoid Fever.**—Davis has used *acetozone* in 59 cases, giving it in water in the usual doses. Among the 59 there were 2 who died at the very beginning of treatment; excluding them, the percentage of fatalities is 10. Twenty-one patients during the summer months were treated in the same way in every respect, but without the acetozone, and 2 of these who died might be excluded because of death occurring almost immediately after entering the hospital. Without these, the percentage of mortality would be 19. Among those who used acetozone he finds that those admitted to the hospital in the first week of their illness averaged 21.25 days of the fever, ranging from 9 to 33 days. Those admitted in the second week averaged 31.5 days of the fever, ranging from 10 to 83 days; in the third week 7.7 days of fever ranging from 20 to 58 days, and those appearing after the third week averaged 44.5 days of fever, ranging from 32 to 71 days. Among a small number that did not get acetozone those admitted in the first week averaged 28.6 days with a range of from 19 to 42; those in the second week 26 days, ranging from 13 to 39; those in the third week 41.5 days, ranging from 33 to 50, and those appearing after the third week averaged 54 days of fever, and ranged from 28 to 81 days. The number is small, but the statistics emphasize the value of early treatment and show apparently that the use of acetozone apparently shortened the disease. It did not seem to produce visible effects. Twenty grains of the acetozone were dissolved in two quarts of water, and a glass of the solution administered every two or three hours and equal parts of medicated water and milk were in some cases given more frequently. The fluid seems to promote excretion by the kidneys.

84. **Euphthalmin.**—Hale finds that euphthalmin is a powerful and effective drug, and the best pure mydriatic we have for diagnostic purposes.

### New Orleans Medical and Surgical Journal.

*January.*

85 The Teeth as a Factor in Digestive Diseases and Disorders. J. A. Storck.
86 *The Prostate in the Cure of Gonorrhea. A. Nelken.
87 Ringworm of the Body Considered in a General Way. J. N. Roussell.

86. **Gonorrhea.**—Nelken insists on the importance of the prostate in the condition of *chronic* gonorrhea and the value of prostatic massage in the treatment. Other pathologic factors can not be neglected, and, of course, if structural changes in the gland have occurred, or there is complicating disease in the viscera, probably of long-standing, then only the most persevering treatment will succeed. He reports cases to prove his assumption that careful systematic massage of the prostate is of the greatest benefit in many cases of gonorrhea.

### Louisville Monthly Journal of Medicine and Surgery.

*January.*

88 Rectal Surgery in the General Practice of Medicine. D. O. Hancock.
89 Diphtheria. J. D. Kiser.
90 Practical Points in Dietetics. Sidney J. Meyers.
91 Intra-capsular (?) Fracture of Femur. John B. Richardson.

### Journal of Medicine and Science, Portland, Me.

*December.*

92 Intubation for Laryngeal Stenosis. J. B. O'Neill.
93 Deformities of the Foot. Edville G. Abbott.
94 Ophthalmia Neonatorum. L. Webster Fox.
95 Diseases of the Stomach in Connection with the Eyes. Geo. F. Libby.

### Physician and Surgeon, Detroit and Ann Arbor.

*October.*

96 An American Medical Student. (James Jackson, Junior, 1810-1833.) Aldred Scott Warthin.
97 The Comparative Value of Some Drugs. William H. Baldwin.
98 The Treatment of External Operation-Wounds. Frank B. Walker.
99 The Treatment of Appendicitis. John T. Bird.

### Mississippi Medical Record, Vicksburg.

*January.*

100 A Reminiscence. S. C. Gholson.
101 Country Surgery. J. J. Slack.

### Southern California Practitioner, Los Angeles.

*December.*

102 The Care of the Child at Birth. Nannie C. Dunsmoor.
103 Concerning the Pathology and Treatment of Acute Anterior Poliomyelitis. Elbert Wing.
104 Care of the Pregnant and Parturient Woman. Chester L. Mager.
105 Eclampsia. Claire W. Murphy.
106 A System of Peripatetics. E. S. Goodhue.

### International Journal of Surgery, New York.

*January.*

107 Circumcision. Bransford Lewis.
108 The Surgical Treatment of Infective Inflammatory Conditions. L. E. Stamm.
109 An Inquiry Into Some Methods of Treatment of Carcinoma and Kindred Affections. J. McFadden Gaston, Jr.
110 The Surgical Assistant. Operations on the Bladder and Urethra. (Continued.) Walter M. Brickner.

### Toledo Medical and Surgical Reporter.

*January.*

111 Address of Welcome, Northwestern Ohio Medical Association. Julius H. Jacobson.
112 Response to Address of Welcome. Shelby Mumaugh.
113 Dermoid Cyst of the Ovary, with Report of Four Cases. Joseph F. Fox.
114 Gastric Displacements of, and Their Effect on the Abdominal and Thoracic Viscera. E. J. Greenfield.
115 Acute Infantile Enterocolitis. M. A. Darbyshire.
116 Modern Therapeutics. S. B. Hiner.
117 Anesthesia and Anesthetics. C. W. Moots.
118 Contused and Lacerated Wounds. J. A. Kimmell.
119 Diagnosis and Treatment of Modified Smallpox. L. F. Laudick.
120 Operation for Cataract After the Use of Local Osmotics. Joseph Sager.
121 A Plea for a Better Knowledge of Insanity Among General Practitioners. George R. Love.
122 The Clinical History of Three Typical Cases of Alcoholism. L. E. Shaffer.

### Carolina Medical Journal, Charlotte.

*December.*

123 "Contagious Acne"—A Note on Pathology and Treatment. Woodbridge Hall Birchmore.
124 The Treatment of Corneal Ulcers. W. H. Wakefield.

### St. Louis Courier of Medicine.

*December.*

125 School Hygiene of the Eye. J. W. Sherer.
126 Carbuncle and Other Affections Contracted in the Barber Shop. W. A. Hardaway.
127 The Significance of Cardiac Murmurs in Infancy and Childhood. W. J. Johnson.

### Clinical Review, Chicago.

*January.*

128 Carcinoma of the Uterus, Some Considerations of Its Inoculability. Should Vaginal Hysterectomy for Carcinoma Be Abandoned? G. F. Shimonek.
129 The Uterine Curette as a Therapeutic and Diagnostic Agent. Louis J. Pritzker.
130 The Diagnosis and Treatment of Diseases of the Throat in Children. N. Filatov.

### Canada Lancet, Toronto.

*January.*

131 Amyotrophic Lateral Sclerosis. Alexander McPhedran.
132 Medical Colleges and Their Clinics. John Hunter.
133 Clinical Notes from Royal Alexandra Hospital. Fergus. A. Groves.
134 Fresh Air vs. Disease. G. E. Dewitt.
135 Impetigo Circinata. Graham Chambers.
136 The Pathology of Tuberculous Arthritis—With Special Reference to the Knee. John Stewart.
137 The Treatment of Tubercular Arthritis—With Special Reference to the Knee-joint. N. E. McKay.

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## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal, London.

*January 2.*

1 *Edema of the Lungs and Its Importance as a Mode of Death. Isambard Owen.

2 *Postural Albuminuria. William H. Broadbent.
3 Summary of Two Clinical Lectures on Empyema and Bronchiectasis. Alex. James.
4 Three Cases of Abscess of the Lung. D. J. Williams.
5 A Case of Purulent Pericarditis Associated with Empyema in a Child Aged Two and a Half Years. Death Nearly Four Months After a Double Operation. J. A. Coutts and R. P. Rowlands.
6 *Note on the Method of Demonstrating Tubercle Bacilli in the Urine. Edgar Trevithick.
7 Reaction with Perchlorid of Iron in the Urine of Grave Cases of Hepatic Cirrhosis. F. Parkes Weber.
8 *A Method for Anastomosing a Severed Vas Deferens. J. Lynn Thomas.
9 Pilewort Ointment and Suppository. James Sawyer.

1. **Edema of the Lungs.**—Owen describes the phenomenon and thinks that many cases of so-called heart failure in pneumonia are really due to antecedent commencing edema. A careful examination of the back of the chest in pneumonia is often neglected, and the importance of the condition so frequently found in autopsy is often overlooked. He thinks that when the countenance changes, the complexion becomes pale and dusky, the patient drowsy and apathetic, and the pulse begins to flag, one should not content oneself with the diagnosis of toxemia, or collapse, or cardiac failure, but should thoroughly examine for physical signs. The administration of an expectorant for the purpose of removing edematous fluid is a mistake, as such fluid can not be expelled by coughing. The principal thing is to examine thoroughly the right side of the heart and look for evidences of obstructive venous circulation. If the signs are profound, perform venesection promptly. Failing to do this, leeches, free water purgation, or pilocarpin, may be of value. The continued use of alcohol in this condition is useless and may be harmful. Atropin and ammonia are indicated theoretically. Strychnin has produced marked improvement when given hypodermically, and has become part of his routine treatment.

2. **Postural Albuminuria.**—Broadbent finds as an antecedent in cases of this condition a neurotic family history and cardiovascular instability or brain abscess. He has never seen any serious renal disease result; usually all the treatment required is simple food, fresh air and vigorous exercise. If these cases are treated for renal disease they will probably get worse.

6. **Tubercle Bacillus in the Urine.**—Trevithick has found the following methods eminently successful: The urine is allowed to stand in a conical glass and the lower portion is centrifuged. The supernatant fluid is then carefully decanted off and the centrifuge receiver is filled with distilled water and shaken. This is again centrifugalized and the process repeated. After the final centrifugalization the bacilli found in the films prepared from the sediment will be greatly in excess of those demonstrated in the same urine where this precaution of washing away the urinary salts is not practiced.

8. **The Vas Deferens in Anastomosis.**—Thomas operates by slitting up the urethral end of the severed vessel, a little higher on one side than on the other; thus forming two tails of equal size. The obliquely cut free end of the testicular portion of the vas was placed with its lumen in contact with that of the testicular portion and fixed by means of fine silk suture as closely applied as possible. The two tails of the distal end were then enveloped around the testicular portion in order to counteract the disruptive forces of the weight of the testicle. Afterward the layers of the fascia were wrapped around the anastomosed vas deferens and fixed by sutures. The invagination of the ends is impossible in this case on account of the smallness of the tube. The use of this method makes union more certain.

### The Lancet, London.

*December 26.*

10 *The Diagnosis and Management of Doubtful Cases of Diphtheria. F. Foord Caiger.
11 How to Treat a Case of Insanity. Robert Jones.
12 *The Use of Pure Carbolic Acid in the Treatment of Smallpox. James T. Neech and J. F. Hodgson.
13 *Etiology of Yellow Fever. James B. Tombleson.

*January 2.*

14 *Deceptive Signs of Improvement Following on Septic Intoxication in Acute Appendicitis, Especially in Young People. William H. Bennett.
15 Hallucination. Conolly Norman.
16 On Hour-glass Stomach from a Personal Experience of 23 Operations. A. W. Mayo Robson.
17 *Ochronosis: The Pigmentation of Cartilages, Sclerotics and Skin in Alkaptonuria. William Osler.
18 Some Simple Expedients in Physical Therapeutics. W. Essex Wynter.
19 Spiral Formations in Relation to Walking, Swimming and Flying. J. Bell Pettigrew.
20 An Unusual Form of Family Paralysis. J. A. Ormerod.
21 A Case of Facial Paralysis Associated with Herpes Zoster. E. Hewat Fraser.
22 An Effectual Means of Dealing with the Conditions of Chronic Obstruction of the Large Bowel Resulting from the Adhesions which Develop in Consequence of Chronic Constipation. W. Arbuthnot Lane.
23 *The Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. George Lamb and Walter K. Hunter.
24 Some Observations Regarding the Special Circumstances of Cases of Lead Poisoning Occurring Among Workers in White Lead Factories. Theodore A. W. Ogg.

10. **Diphtheria.**—Caiger discusses the difficulties of determining diphtheria by clinical appearances and also pseudodiphtheria germs which may confuse the diagnosis. The ordinary bacteriologic test, therefore, is not absolutely reliable in all cases, but where the symptoms or anomalies are abundant it is valuable. In suspected cases he would isolate the patient, disinfect everything, examine the throat, nasal passages and all tissues, isolate or exclude all contact with persons with doubtful diphtheria bacilli in their throats, and search for every possible source of infection, doing everything that may possibly serve to lessen the infectivity of the patient and shorten the term of detention. The average period of diphtheria bacilli persisting in the throat was about twenty days. He thinks it may be longer in hospital wards. Sometimes they may be detected three months after the attack. The longest time on record, he says, was not quite a year. Adenoids seem often to be responsible for undue persistence of the germs, and great care should be exercised in assuring oneself that the germs are not present before operation is performed. Antitoxin should always be given without exception, and in case of infected contact with any signs of faucial, laryngeal or nasal inflammation.

12. **Smallpox.**—Neech and Hodgson have used local treatment with carbolic acid in 136 cases, with 5 deaths. Many of the cases were severe, 22 were confluent, 12 were semi-confluent, and some of the discrete cases were of the severer type. The symptoms were decidedly modified, the fever and odor diminished, and delirium was infrequent. The risk of aerial convection was, they think, very much decreased. There was an entire absence of complications, such as multiple abscess, etc.

13. **Yellow Fever.**—Tombleson refers to his former article, abstracted in THE JOURNAL of September 19, ¶12, p. 752. He gives a tabulated analysis of 25 cases and a record of finding of the bacillus, which he has described, in infected mosquitoes and their larvæ. He also fed mosquitoes on the blood of yellow fever cases, and found the bacilli in every stage of growth and sporification in them. He stained with carbotoluidin blue, prepared by adding to a 5 per cent. solution of carbolic acid enough saturated solution of toluidin blue in absolute alcohol to make the mixture a deep blue color. He stained with this for three hours and dried by heat, without any dehydration with alcohol, cleared it up with xylol, and mounted. This was, of course, in section preparations. In the blood slides no dehydration was required. One point in the treatment of yellow fever is mentioned. He uses large injections of warm water into the large bowel from the beginning of the third day of the disease to the end, two quarts twice daily, taking half an hour or more to the operation, and finds this method always beneficial in preventing secondary fever.

14. **Appendicitis.**—Bennett calls attention to deceptive symptoms, for example, in advancing sepsis and intoxication where the gangrenous appendix produces anesthesia with apparent improvement. This is particularly the case in young growing children even when the infective processes are very acute and the results destructive. The changes are followed so rapidly by necrosis and decomposition that the commencement of septic intoxication is begun before the patient realizes the

onset of the condition. In fact, before the ordinary symptoms develop the patient has become dull and listless from the rapid absorption of septic material. He refers to the stomachaches of boys as deserving of more attention than they receive, since they are sometimes the indication of appendiceal trouble. There is one sign that is almost pathognomonic of appendiceal involvement, that is, a feeling of discomfort about the right iliac region on stretching of the lower limbs, a condition which never follows mere stomachache. But no one sign can be relied on alone.

17. **Ochronosis.**—Osler reports two cases in alkaptonuria in which the condition was clinically recognizable by deep pigmentation of the cartilaginous tissue and sclerotics. In one it resembled an ebony-black discoloration of the skin, nose and cheeks. The relation of this discoloration to metabolic changes shown by the urine is especially noted, but all cases of ochronosis are not to be found in alkaptonuria.

23. **Cobra Venom.**—Lamb and Hunter report experiments with cobra venom and the administration of toxic substances which when injected subcutaneously produce symptoms of muscle paralysis due apparently to degenerative changes in the motor neurons. Doubtless, it has an effect on other parts of the body, but it seems to have a special action on the nervous system. A certain time seems to be required to cause these changes to develop.

### Janus, Amsterdam.

*Last indexed XLI, page 471.*

25 (VIII, No. 7.) History of the Magnet Operation in Ophthalmology. F. M. Feldhaus (Heidelberg).—Geschichte der Magnet Operation in der Augenheilkunde.
26 Sydenham's Experience of Malaria. A. Davidson (Edinburgh).
27 (No. 8.) *Trypanosome Affections. A. Laveran and F. Mesnil.—Maladies à trypanosomes. Leur repartition à la surface du globe. (Commenced in No. 7.)
28 *Swedenborg's Conceptions of Anatomy and Physiology. M. Neuburger (Vienna).—Swedenborg's Stellung zur Lehre von der Vita propria.
29 *Arabian Medical Lore. Razès' "Cure in One Hour." P. Guigues.—La guérison en une heure de Razès. Traduction et notes.
30 Cyrurgia Johannis Jamarii. P. Pansier (Avignon). (Commenced in No. 6.)
31 (No. 9.) L'assistance médicale indigène à Madagascar. A. Kermorgant.
32 Swedenborg's Conception of the Corr [illegible] M. Neuburger.—Was lehrte S. über die [illegible] ?
33 Protection of Parturients During Pre [illegible] v. Engelenburg.—Beschützung der Wöchnerinnen in vorigen Jahrhunderten.
34 Anatomy of Eye According to Arabian Oculists. Emir Arslan (Beyrouth).—Anatomie de l'oeil de Tezkerath-el-Kahaline ou Memorandum des oculistes d' Issa Ben Ali. See J. Hirschberg in No. 10.
35 Arnold de Villa Nova on the Therapeutic Use of Human Blood. J. F. Payne (London). (Commenced in No. 8.)
36 The Early Ophthalmoscope. E. Pergens.—Die Vorform des modernen Ophthalmoskops.
37 (No. 10.) Malaria sans moustiques. G. Treille (Marseilles).
38 Raymundus de Moleriis und seine Schrift: "De Impedimentis Conceptionis." (Fourteenth Century.) J. Pagel (Berlin).
38½ (No. 11.) Note sur la fèvre bilieuse hémoglobinurique en Algérie. J. Brault (Alger).
39 *Dress Reform Preacher in Eighteenth Century. L. Stieda (Königsberg).—Dr. Faust-Bückeburg, ein Kleider-Reformateur am Ende des XVIII Jahrhunderts. (Commenced in No. 10.)
40 Medieval Medicine in Spain. L. Comenge (Barcelona).—Contribution à l'étude de l'histoire de la médecine dans le royaume d'Aragon (moyen-age). (Commenced in No. 10.)
41 Instruction in History of Medicine in Austro-Hungary. M. Neuburger.—Ueber den Unterricht in der Geschichte der Medizin in Oesterreich-Ungarn.
42 Ibid. in France. R. Blanchard.—L'enseignement de l'histoire de la médecine à la Faculté de Paris.
43 Protection of Parturients. Geyl (Ginneken).—Das "Kraamkloppertje."
44 (No. 12.) Traitement du chalazion, de l'encanthis, de la *dacryocystite* et de la hernie de l'iris au Xe Siècle (tenth century). Emir Ariff Arslan (Beyrouth).
45 Zur Prioritäts-Frage Holmes-Semmelweis. S. Baruch (New York).
46 Reply to Above. T. von Györy (Budapest).
47 History of Spanish Medicine in Germany. A. Silberstein (Berlin).—Zur Geschichte der spanischen Medicin in Deutschland.
48 The Cradle and Infancy of Pharmacy. L. Boriani (Bologna).—Le berceau et les premiers ages de la pharmacie. (Commenced in No. 10.)
49 Cuneiform Clinical Notes of Otitis of an Assyrian King, 700 to 600 B. C. Oefele (Neuenahr).—Eine Ohrenerkrankung eines Assyrerkönigs.
50 Germanic Medicine. M. Höfler (Bad Tölz).—Zur altgermanischen Heilkunde.

27. **Distribution of Trypanosoma Affections.**—Laveran published last year a map showing the number of countries where trypanosoma affections are prevalent, while nine years ago the list was limited to surra in India. During the last year three new trypanosoma affections have been discovered, two of which are peculiar to man. He reviews them all, with reports of personal experimental research.

28. **Swedenborg's Conceptions of Anatomy and Physiology.**—Neuburger quotes extensively from Swedenborg's work, published in 1740, to prove that he had a remarkably accurate conception of some of the vital processes which are considered a triumph of more recent science.

29. **Razes' "Cure in One Hour."**—The book which Guigues has translated was written by Mohammed ar-Razy, who died in 930, the author of 199 other works. The one with the above title describes a large number of treatments for various affections guaranteed to cure "while you wait." The translator is professor at the French Medical College at Beyrouth, Syria, where the ancient Arabian medical writings are being systematically studied at present. Among Razès' prescriptions we note one for buzzing and noises in the ears as follows: Stir some good opium into water and instill it in the ear. The trouble will vanish immediately. He recommends a certain formula containing pyrethrum and other drugs. One pill taken before meals will suspend epilepsy for a week. For exhaustion from fatigue he advises to anoint the nails with oil, which will give immediate relief. For disturbances in the extremities due to bathing in cold water, he orders the feet to be kept for an hour in hot water to which a handful of salt has been added.

39. *Masculine Dress Reform in the Eighteenth Century.*—The preacher of dress reform to whom Stieda refers was a Dr. Faust of Bückeburg, who published a work on the subject in 1791. He was a scholarly and popular physician, and his book attracted great attention at the time, being translated into French, Dutch and English. The full title was "How to Regulate the Sexual Instinct in Man and Make Human Beings Better and Happier." His theme was a denunciation of trousers. He attributed to this masculine garment all the ills of civilization, and demanded that trousers should not be worn at least until adult age. His plea was that trousers exclude the air and keep the parts in a condition of heat and moisture which acts like a hotbed, forcing the genitalia to premature development and producing unhealthy conditions which favor relaxation and devitalization of the tissues, entailing hyperfunction and inviting disease.

### Presse Médicale, Paris.

51 (II, No. 100.) Un syndrome bulbaire. Autopsie. P. Bonnier.
51½ Sur la contagion de l'angine de Vincent. S. Costa.
52 Traitement des polypes bénins du nez. P. Jacques.
53 (No. 101.) La maladie du sommeil (sleeping sickness). C. Jarvis.
54 La dyspepsie hyposthénique. Traitement médicamenteux. Hygiène spéciale. A. Martinet.
55 *Immobilizing Casts for Pott's Disease. P. Desfosses and C. Ducroquet.—Les gouttières moulées dans le traitement du mal de Pott.

55. **Cast for Pott's Disease.**—Ducroquet's cast is a modified plaster or celluloid cast similar to a Sayre corset, only that the front is entirely cut away. This allows the thorax and abdomen full play, while enough of the cast is left, above and below, to insure a solid support for the back part. He gives 6 cuts showing the various steps of making it.

### Semaine Médicale, Paris.

56 (XXIII, No. 51.)—La maladie du sommeil (sleeping sickness). Wurtz.
57 *De la compresse hydrothérapique appliquée sur la poitrine (chest). C. Fernet.
58 J. F. Malgaigne, 1806-1865.
59 *Emission de rayons de Blondlot par l'organisme humain. A. Charpentier. From society report.
60 Dissociation de la perméabilite rénale pour le chlorure de sodium et l'urée dans le mal de Bright. Widal and Javal.
61 Conclusions d'un voyage médical aux Etats-Unis (in U. S.). F. Munch.

57. **Application of Cold Compress to the Chest.**—Fernet has been advocating for some years the application of a small compress wrung out of cold water in the treatment of congestion of the lungs in infectious diseases. He has found this procedure especially valuable in grippe, typhoid fever,

pneumonia, bronchopneumonia, in congestion with edema of the lung, in incipient hemoptysis, and in certain cases of tachycardia, particularly in exophthalmic goiter. The patients are liable to start and shiver at the first application, but the relief and benefit are soon so marked that they clamor for a repetition. He uses a napkin wrung out of cold water, covered with another folded in four to protect the clothing. He leaves it half a minute and then substitutes another. The total application is thus only one minute. If the procedure is repeated, the compress must be applied at another point, as the impression of sudden cold—which is the stimulating effect on the peripheral nerve terminals sought by the application—soon becomes dulled. He attributes its action to reflex influence on the pneumogastric and on the vasomotor nerves of the sympathetic system. The only contraindication he has discovered in fifteen years' experience with this simple method of stimulation is when the patient is in profuse perspiration, and in his own practice he does not regard this as a contraindication. He cites a case of attacks of dyspnea and palpitations occurring in a young woman subsequent to diphtheria, reported by Duchenne, cured by faradization of the skin. The action of cutaneous faradization seems to him to be exactly similar to that of the cold compress.

59. **Emission of Rays by the Human Organism.**—Charpentier reported at the meeting of the Paris Académie des Sciences, December 14, that phosphorescent and fluorescent substances become more luminous when in proximity to a functioning muscle, nerve or nerve center. He was studying the Blondlot or *n*-rays at the time he made this discovery, and found that it was possible to trace the course of a functioning nerve by this greater luminosity of the fluorescent screen over it. The increase in luminosity was apparent even through interposing substances, except those which are impermeable for the *n*-rays. The rays thus emitted by the human organism reflect and refract like the *n*-rays, and are equally pronounced even after the subject has been in complete darkness for nine hours. This proves that the rays are actually emitted and not merely the effects of stored-up light in the tissues. He was able to determine the outlines of the heart by the changes in the luminosity of a small fluorescent object passed over the region. [The Blondlot or *n*-rays are detected by enclosing a gas jet, for instance, in a metal box impermeable to the heat and light rays. A window of aluminum also arrests the heat and light rays, but allows these *n*-rays to pass. If they are focused by an aluminum lens after having traversed the aluminum window, it will be found that an electric light or a scarcely visible gas flame will shine more brightly under their influence, and phosphorescent or fluorescent bodies become more luminous and active. Aluminum and paper transmit the *n*-rays while filtering out the ordinary heat and light rays, but the *n*-rays are arrested by lead. They are not heat rays, as has been proved by the calorific screen. The evidence indicates that the wave length is far below that of heat and above that of electricity. The *British Medical Journal* of January 2 comments on Charpentier's discovery above, as "opening up possibilities for research on the living body which far surpass anything that the wildest dreams of the imagination have so far suggested." His communication was presented at the meeting of the Paris Académie des Sciences, December 14, 1903.—ED.]

### Centralblatt f. Bakteriologie, etc., Jena.

*Last indexed page 134.*

62 (XXXIV, No. 3.) Ueber die Einwirkung der Bakterien auf verschiedene Zuckerarten (action of bacteria on various kinds of sugar). A. Segin.
63 Acid-fast Bacilli in a Python. von Hansemann.—Ueber säurefeste Bazillen bei Python veticularis.
64 Origin of Young Malaria Parasites from Older Ones. M. Silberstein.—Ueber die Entstehung von jungen Malaria parasiten aus älteren. (Commenced in No. 2.)
65 Bacterium muris. L. Zupnik.
66 Disease Among Ducks. Kampmann, Hirschbruch and Lange. —[illegible] mit eigenartigen Diph-[illegible]ctiva.
67 Ue[illegible] Hefe (yeast). E. Klein.
68 A[illegible]n Acid-Fast Bacillus. G. Dean (London).
69 Precipitation in Agglutination. M. Löwit. (Commenced in No. 2.)
70 Ueber die Bindungsverhältnisse zwischen Toxin and Antitoxin. P. Eisenberg.
71 On the Heat Lability of the Complements of Cold-blooded Animals and on the Multiplicity of the Serum Hemagglutinins of Cold-blooded Animals. H. Noguchi.
72 (No. 4.) *Ueber die Biologie und Pathogenität des Bacillus prodigiosus. E. Bertarelli. (Commenced in No. 3.)
73 Ueber die aktiven Substanzen des Bacterium coli. A. Carega.
74 Ueber eine infektiöse Krankheit beim Genus Turdus. A. Maggiora and G. L. Valenti.
75 Studien über den Vaccine-Erreger. H. Bonhoff. (Commenced in No. 3.)
76 Bindungs-Verhältnisse bei der Präzipitin Reaktion. v. Dungern.
77 De l'influence des toxines diphthérique et tétanique sur l'hémoglobine, la morphologie et le poids spécifique du sang. H. Kucharzewski.
78 (No. 5.) *Zum Studium des Dysenterie-Bacillus. R. Doerr.
79 *Zur Entstehung von Ratten-Epizooteen. E. Wiener.
80 Ueber Immunisirung mit Diphtherie-Bazillen. A. Lipstein.
81 Attempt to Explain the Mode of Action of Immune Bodies by Physical Properties. H. Zangger.—Deutungsversuch der Eigenschaften und Wirkungsweise der Immunkörper.
82 *Ueber die künstliche Immunität gegen Staphylococcen. Pröscher (Hamburg).
83 Studies of Immunity to Anthrax. O. Bail and A. Pettersson. —Ueber Milzbrandimmunität.
84 Etude de l'origine de l'aléxine bactéricide. U. Lambotte.
85 Eine neue Methode für den raschen Nachweis des Bacillus [illegible]li.
86 [illegible]us-Bacillus vom Bacterium coli [illegible] (on basis of acid formation). R. Zielleczky.
87 (No. 6.) Ueber ein akut wirkendes Bakterientoxin. R. Kraus.
88 Ueber die Virulenz der Tuberkel-Bacillen. Vagedes. (See Krompecher's article in No. 8.)
89 Helminthologische Beobachtungen. (Ankylostomum americanum, Mermis, Paramermis, Hydromermis und Gyrocotyle.) v. Linstow (Göttingen).
90 Invasion of Ankylostomum by Way of the Skin. G. Pieri (Rome).—Einwanderung der Ankylostomen von der Haut aus. (See Looss' article in Vol. XXXIII.)
91 Attempt to Explain the Rabbit's Susceptibility to Anthrax. O. Bail and Pettersson.—Versuch einer Erklärung der Milzbrandempfänglichkeit des Kaninchens.
92 Cholera Immune Bodies. E. P. Pick.—Ueber den Gehalt der einzelnen eiweissfraktionen des Serums an Choleraimmunkörpern. Reply by A. Wolff.
93 Does Tetanolysin Form a Non-toxic Combination with the Proteids of Serum and White of Egg? T. Müller.—Geht das Tetanolysin mit den Proteiden des Serums und des Eiklars eine ungiftige Verbindung ein?
94 Zur Frage des Pankreas-Cytolysins. E. Sauerbeck.
95 Naphthol Blau als Reagens auf Bakterienfett. A. Meyer.
96 Zur kulturellen Differenzierung der Ruhr-Bacillen gegenüber ruhrähnlichen Bakterien (dysentery bacilli). H. Hetsch.
97 Die Cholera-Diagnose mit Hilfe eines Spezial-Agars. Hirschbruch and Schwer (Posen).
98 Ueber die Trink-Wasser-Desinfektion mit Iod nach Vaillard. G. Obermaier. Tests always partly negative.
99 Apparatus for Cultivating Micro-organisms in Constant Current. E. Wiener.—Apparat zur Züchtigung von Mikroorganismen in beweglichen flüssigen Medien.
100 Cultivation of Anaërobic Bacteria. O. Streng.—Zur Züchtung der anaëroben Bakterien.
101 Löffler Mouse-Typhus Bacillus on Certain Medium.—C. Siebert. Ueber das Verhalten des Loffler'schen Mäusetyphusbacillus zu dem v. Drigalski-Conradi'schen Nährboden.

72. **Pathogeneity of Bacillus Prodigiosus.**—Bertarelli has found that this bacillus induces a fatal, toxic septicemia in laboratory animals.

78. **Dysentery Bacillus.**—In an epidemic comprising 118 cases of dysentery, Doerr was able to cultivate from the stools a bacillus corresponding in all particulars to the Shiga bacillus.

79. **Rats in Etiology of Typhoid.**—Wiener affirms that typhoid bacilli are liable to remain alive in rats for a month after typhoid dejecta have been eaten by the animals. By their dejecta in turn they are liable to infect articles of food and drinking water.

82. **Artificial Immunity to Staphylococci.**—Pröscher announces that he has succeeded in producing a powerful antistaphylococcus serum which is not bactericidal, but owes its efficacy to its power of rendering the leucocytes chemotactic, so that they devour the cocci with avidity, in addition to its antitoxic power. The prepared serum is derived from horses and goats. He reports only experimental tests of it.

### Centralblatt f. Gynäkologie, Leipsic.

*Last indexed page 134.*

102 (XXVII, No. 50.) *Modified Metho[illegible]y on Account of (probable) Recurring [illegible] P. Rissmann (Osnabrück).—Eine [illegible] zur Herbeifuhrung der weiblichen Ster[illegible], etc.
103 Epithelial Cavities in Lymph Glands. A. Falkner (Wertheim's Clinic, Vienna).—Zur Frage der epithelialen Hohlräume in Lymphdrüsen.
104 Plastic Closure of Vesico-Vaginal Fistula with Cervix. H. Thomson (Odessa).—Der plastische Verschluss von Blasen-Scheidenfisteln vermittels der Cervix uteri.
105 (No. 51.) *Gynecologic Conditions Subsequent to Placenta Previa. E. Radtke (Königsberg).—Ueber gyn. Folgezustände der Placenta Previa.

106 Normal Site of Organs in Female Pelvis and Their Most Frequent Defective Development. H. Sellheim (Wiesbaden).—Der normale Situs der Organe im weiblichen Becken und ihre häufigsten Entwicklungshemmungen.
107 Instrument to Facilitate Suture of Lacerations of Vagina and Perineum. M. Stolz (Graz).—Ein Spiegel zur Scheiden-Dammnaht.

**102. Artificial Sterilization.**—Rissmann caused the occlusion of the tubes by cutting a wedge-shaped piece out of each, according to the usual technic. The modification consists in the fact that he operated through an incision in the Douglas cul-de-sac instead of by anterior colpotomy. The technic is much simpler than by the latter route.

**105. After-Results of Placenta Previa.**—Almost three-fourths of Radtke's 80 cases of placenta previa suffered from anemic disturbances subsequent to it. In 53 the anemia could be traced directly to the placenta previa. In 3 previously existing anemia was much aggravated. In another patient who did not exhibit anemia it developed subsequent to a second, normal pregnancy. All complain of weakness, frequent headaches and vertigo. Other patients have exhibited symptoms of a parametritic character, so that of the total 80 fully 61.25 per cent. have been more or less incapacitated for work. His statistics also show that abortion is liable to occur after placenta previa. This was noticed in 23 of the 80 patients, and the abortions recurred several times in 8. His material is reviewed in detail.

### Deutsche medicinische Wochenschrift, Berlin and Leipsic.

108 (XXIX. No. 52.) *Zur Technik der Hände-Desinfektion. E. Braatz (Königsberg).
109 *Becoming Accustomed to Arsenic. W. Hausmann.—Zur Kenntniss der Arsengewöhnung.
110 *Ueber die nach Injektion von Diphtherie-Heil-Serum auftretenden Exantheme, insonderheit über die scharlachähnlichen. Oberwinter. (Commenced in No. 51.)
111 Tabische Osteo-arthropathie der Wirbelsäule (of spine). Graetzer.
112 *Vaselin- oder Hart-Paraffin-Prothesen? H. Eckstein (Berlin).
113 Ueber das "harte traumatische Oedem" des Hand-Rückens. R. Grünbaum (Vienna). (Commenced in No. 51.)
114 *Phthisis in Gebirge (in mountain regions). E. Fischer.

**108. Disinfection of Hands.**—Braatz gives cuts of his model washstand, in which the flow of the fluid from the jar of alcohol or bichlorid solution above is controlled by a pedal. The jars are high enough so that the arm can be rinsed in the fluid. He also illustrates his folding nail cleaner, or rather scraper, and recommends the use of a small double magnifying glass, such as he always carries with him to inspect his fingers after disinfection to detect any possible lurking places for contamination.

**109. Habituation to Arsenic.**—Hausmann succeeded in conferring a very slight degree of immunity on fowls and dogs by previously treating them with repeated small doses of arsenic. This slight immunity resembles that attained by the Steiermark arsenic eaters, and, like that, is minimal and scarcely beyond the tolerance observed within natural limits. Both the Steiermark arsenic eaters and the animals succumb when larger doses are taken—even when the size of the dose is less than what has been tolerated in certain cases of poisoning. The arsenic is much less toxic apparently in the powder than in solution.

**110. Exanthemata After Injection of Diphtheria Antitoxin.**—Oberwinter describes several cases of what were assumed to be the above, but later proved to be genuine scarlet fever. He emphasizes the fact that the exanthem which develops in the first five days, especially during the third to the fifth day after the injection of serum, should be regarded with great suspicion. In the majority of cases it will prove to be genuine scarlet fever. The first appearance of the eruption at the point of the injection is not a proof of its being a serum eruption, but rather of the contrary, that it is genuine scarlet fever. The cases are generally due to dual infection, before admittance to the hospital, with true diphtheria and true scarlet fever. At the same time he does not deny that a true serum exanthem may assume the form of a scarlatinal eruption.

**112. Hard vs. Soft Paraffin Prothesis.**—Eckstein reviews the literature on the subject of Gersuny's paraffin prothesis, and summarizes that 7 or 8 cases of pulmonary embolism from the use of soft paraffin are on record, with one death, and 2 in rabbits, both fatal. Beside this, there is a case on record of thrombosis of the ophthalmic vein and another of embolism of the centralis retinæ, both terminating in loss of vision in the eye affected. On the other hand, he has never had a single mishap in his 154 cases with possibly 1,000 injections of hard paraffin. He thinks that it is destined to be the normal procedure for umbilical hernia and as a palliative in certain cases of inguinal hernia. In several cases of cleft palate he has improved the speech to such an extent by injection of the hard paraffin into the rear wall of the pharynx that the patients have been able to obtain more lucrative employment. (The technic, etc., were given in The Journal, xl, 1903, pages 64, 613 and 1114.)

**114. Phthisis in the Swiss Mountains.**—Fischer has been studying the carefully kept vital statistics of two Swiss towns of 600 and 1080 inhabitants, the first about 2,500 feet and the second 5,525 feet above the level of the sea. He found that the mortality from tuberculosis during the last twenty years was 7.04 per cent. of the total mortality in the lower, and 3.8 per cent. in the higher town of all deaths during this period. The proportion per 1,000 inhabitants per year is only 1.5 in the former and .74 in the latter. The townspeople say that those who stay at home do not become tuberculous and those who acquire it elsewhere are restored to health on their return.

### Münchener med. Wochenschrift, Munich.

115 (L, No. 51.) Premature Detachment of Placenta. G. Schickele (Strasburg).—Beiträge zur Klinik der vorzeitigen Lösung der Plazenta bei normalem Sitze.
116 Agent of Human Actinomycosis. K. Doepke (Bamberg).—Weitere Mitteilungen über den Erreger der menschlichen Aktinomykose.
117 *Is Forced Feeding Necessary? K. Bornstein.—Sind Mastkuren Nötig?
118 Ueber Tabes juvenilis und Lues hereditaria. C. Hartmann.
119 Case of Volvulus Occluding Vagina and Preventing Delivery. J. Saks.—Fall eines ungewöhnlichen Geburtshindernisse.
120 Combined Powder Insufflator and Tongue Holder. Dreher (Düsseldorf).—Ein sterilisierbarer Pulverbläser, verbunden mit einem Zungenspatel.
121 Rapid Hardening and Embedding. M. Behr.—Ueber Schnellhärtung und Schnelleinbettung.
122 Apparatus for Simultaneous Extraction of Gastric Juice and Insufflation of Stomach with Air. Rosenau (Kissingen).
123 Treatment of Recent Laceration of Perineum. M. Lehmann.—Behandlung des frischen Dammrisses.
124 Structure and Importance of Bacteria. P. Ernst.—Ueber Bau und Bedeutung der Bakterien. (Commenced in No. 50.)
125 Experts' Testimony in the Konitz Murder Case.—Ueber den Konitzer Mord.

**117. Technic of Forced Feeding.**—Bornstein relates that he has had many patients apply to him after taking a so-called Weir Mitchell course of rest and forced feeding. The cases that had been improved by it were the exceptions. He explains this lack of improvement as due, among other things, to the lack of exercise. The plus in feeding should be accompanied by a plus in exercise, or the cells are unable to take care of the material accumulating. His studies in metabolism have convinced him that albumin alone is what the cells need, and that they must be stimulated by exercise to utilize the supply of albumin, thus crowding out the debilitated elements of the cells with fresh, newly-organized elements. He does not approve of meat for the purpose, considering an oversupply of meat synonymous with gout, but orders casein albumin in some form, such as nutrose, plasmon, sanatogen, or fresh, soft cheese, eggs and buttermilk, much preferring the two first as more inexpensive and convenient. He supplements the albumin with quinin and iron pills and light exercise. The patient retains his freedom, and is not stuffed as if he were being fattened for a fat cattle show. The Weir Mitchell course is indicated in cases of excessive emaciation, in neurasthenia and in cases of wandering kidney in which a support of fat for the floating organ is needed. In all others the simple technic described above is amply sufficient, he believes.

### Therapie der Gegenwart, Berlin.

*Last indexed page 136.*

126 (XLV, No. 1.) *Infant Feeding and Infant Mortality. E. von Behring (Marburg).—Säuglingsmilch und Säuglingssterblichkeit.
127 *Thoughts on the Medical Profession and Its Aims. E. Harnack (Halle).—Betrachtungen über Heilen und Heilzwecke.

128 Action of Carbonated Baths. H. Senator and F. Frankenhäuser (Berlin).—Zur Kenntnis der Wirkung von kohlensäure- und anderen gas-haltigen Bädern.
129 Bülau's Aspiration Drainage of Empyema. F. Schultze (Bonn).—Ueber die Bülausche Heberdrainage bei Empyemen.
130 *Radiotherapy of Cancer. P. v. Bruns (Tübingen).—Krebsbehandlung mit Röntgenstrahlen.
131 *Ueber Therapie des Ekzems. O. Lassar (Berlin).
132 *Present Status of Campaign Against Bovine Tuberculosis According to Behring. G. Klemperer.—Der jetzige Stand der Bekämpfung der Rindertub. nach Behring.

**126. Milk for Infants and Infant Mortality.**—Behring has been continuing his research to discover a practicable means of preserving milk, and describes his numerous experiments and experiences. He has established that formalin will keep milk from souring even in the small proportion of 1/4,000, and that the most sensitive animals take it without apparently detecting the addition of the drug, and persons are unable to tell the milk thus treated from pure milk. Addition of formalin up to 1/500 proved absolutely harmless for all the various animals investigated, whether the milk was ingested per os or injected into a vein or under the skin or into the peritoneal cavity. He further states that by a special technic which he has devised ~~and will soon~~ publish he was able to preserve milk so effectually that it could not be detected from fresh milk when delivered at a distance eight days after the milking. The milk thus preserved was derived from his immunized cows, and his method of preservation did not impair in any appreciable manner the immune bodies contained in the milk. He tabulates the results of tests which showed that addition of 1/10,000 formalin kept the milk from souring for six days. Calves fed on this formalinized milk thrived better than the controls, while prevailing diseases were eradicated by this method of feeding. Not a single case of "Kälbersterben" (calf dying) occurred in one stable in which it had previously been extremely prevalent and invariably fatal. The results observed indicate that formalinized milk is more readily digested than ordinary milk, as it coagulates in delicate flakes. Heating the milk injures the immune bodies, and hence heat sterilization can not be applied to the milk of his immunized cows. (See his articles, THE JOURNAL, xli, pages 1178 and 1266.) Fresh horse serum has a destructive action on anthrax virus, which it loses after six hours. Cow serum does not possess this destructive action on anthrax bacilli nor on streptococci, staphylococci, and certain other bacteria. Reasoning from the fact that young calves are not affected by the colon and lactic acid bacilli, which they must ingest in considerable numbers, Behring surmised that their serum must have antibacterial action for these two varieties of bacteria. This surmise was confirmed by the results of tests which established that the serum and the milk of cattle contain isopathic antibodies for these two varieties. Fresh milk contains a powerful antibody against the colon bacillus, but the proportion is less than that in the blood serum, as the latter contains more of the blood albumin. The same is true in regard to lactic acid bacilli, but to a lesser extent. He is convinced that the antibacterial action of these antibodies is plus that of the formalin in his preserved milk, which is remarkable, as usually the antibacterial action of chemicals is rather antagonistic. ~~He~~ refers to his previous announcements of the unprotected condition of the alimentary canal of infants and young animals owing to the imperfect development of the mucous lining, and comments on the perils to which we expose infants by depriving them of these powerful antibodies in the milk against the colon and the lactic acid bacilli, as the antibodies are destroyed by heating the milk. Jensen has recently reported experiments which showed that boiled milk given to newborn calves for their first meal invariably induced a violent diarrhea similar in every respect to the spontaneous disease known as "Kälberruhr" (calf dysentery). It is immaterial to adults whether they take boiled or unmodified milk, but Behring is convinced that the infant mortality in our large cities is closely connected with the use of heated milk in which we have destroyed the antibodies so sorely needed by the infant organism. In conclusion, he summarizes that he will have accomplished his aim if he can convince families, communities, physicians and local authorities of the fact that when mother's milk is unattainable, the true food for the infant is not heated milk, but pure, unmodified milk from cows absolutely free from the suspicion of tuberculosis. When it is impossible for the infant to obtain the milk direct from the cow, then he is strongly in hope that the new technic of preservation which he outlines here will be found a very important aid in the prevention of infant mortality.

**127. The Healing Art.**—Harnack's article comments on the tendencies of the day and the way to combat quack practices. He uses the untranslatable word "Heilen," which, as he remarks, includes the three Latin verbs mederi (from which medicus) is derived, curare (from cura, care), and sanare (to make well). The physician's task includes the three, and he should not ascribe undue importance to the bacteriologic laboratory. He advocates sending young physicians into the homes of the poor for their "practical year," instead of placing them as fifth wheels in already sufficiently well-equipped hospitals, where they are not needed.

**130. Radiotherapy of Cancer.**—Bruns concludes from a comprehensive summary of what has been published on this subject in America and Europe, as well as his own extensive experience, that the large majority of carcinomata are not amenable to radiotherapy. Those situated near the surface are favorably influenced, but they are not completely cured. Cancroids of the skin alone are capable of being completely cured by radiotherapy. It is particularly valuable as a palliative in inoperable cases of mammary cancer, etc., and the delay for trial of radiotherapy in ulcus rodens is justifiable on account of the slow development and the possibility of complete cure. It should be applied by experts, and the public and physicians should be amply warned not to dally with radiotherapy until the propitious moment for the knife has passed. It has not proved the long-sought remedy for cancer, but it is more important than any other yet advanced, as is evident from inspection of its action on the specific elements of the carcinoma.

**131. Treatment of Eczema.**—Lassar describes his technic for the treatment of eczemas, and concludes with the statement that the Röntgen rays are liable to prove very valuable for the treatment of certain eczemas. They have displayed especial efficacy in cases of chronic eczema of the hand. Even a few applications will abolish the itching, reduce infiltration and render the surface smoother and of a more normal aspect. Persevering treatment has entailed complete and permanent cures.

**132. Immunization of Cattle Against Tuberculosis.**—More than 1,000 head of cattle have been immunized against tuberculosis by Behring's method to date, and the results confirm all his assertions. The vaccine is supplied by a Marburg firm (Dr. Siebert and Dr. Ziegenbein), with full directions. The veterinarians are clamoring for compulsory vaccination of all calves by this method.

### Wiener klinische Rundschau, Vienna.

*Last indexed page 137.*

133 (XVII, No. 42.) *Hernia Into Umbilical Cord. G. Lotheissen.—Ueber Nabelschnurbruch.
134 *Automatic Test of Vision. R. Weiss (Kladno).—Eine einfache Sehprobenvorrichtung.
135 (No. 43.) *Skoloiditis und Colica saturnina. J. Donath.
136 Die Keratitis neuroparalytica und verwandte Zustände. W. Albrand.
137 Aetiologie und Symptomatologie der Dickdarmverrengungen (constriction of large intestine). J. Goedhuis (Deventer, Holland). (Commenced in No. 41.)
138 (No. 44.) *Torquirte Ovarial-Hernie. J. Schnitzler.
139 (No. 45.) Epilepsie und Harnsäure (uric acid). J. Hoppe.
140 *Zur Lehre von der syphilitischen Anemie mit bes. Berücksichtigung der Blut-Veränderungen und der Urobilinurie. F. Samberger (Prague). (Commenced in No. 43.)
141 (No. 46.) *Zur Technik der Magenausheberung (aspiration of stomach contents).—A. Neumann.
142 Ueber die Heberden'schen Knötchen der Finger. O. Rosenbach.

**133. Hernia Into Umbilical Cord.**—Lotheissen describes with cut a case of this rare condition which he remarks is rather a malformation than a congenital rupture, as the intestines do not protrude, but simply have not receded into the abdominal cavity as in a normal fetus. The fissure may extend into the abdominal walls or be confined to the umbilicus, or the hernia may be rather a rupture of Meckel's diverticulum.

Only about 90 cases of these three varieties have been published in the literature during the last twenty years. Surgical intervention is indicated within the first twenty-four hours after birth. Out of 68 cases operated on, 70.6 per cent. of the children recovered without mishap. The intraperitoneal radical operation, he thinks, is the only one to be considered. Narcosis should not be applied unless in exceptionally severe cases with rupture of the hernial sac, as in a case described by Bayer in which 30 gm. of chloroform had to be used. The smaller the protrusion the better the results. Fully 50 per cent. of all the cases in which the liver protruded also terminated fatally.

134. **Sight-Testing Apparatus.**—The test card is enclosed in a box with a slit allowing only one line to be seen at a time. The examiner sits beside the patient and raises or lowers the test card by a string and pulley. The appliance is particularly valuable to detect simulation.

135. **McBurney's Point in Lead Colic.**—Donath relates from Nothnagel's clinic at Vienna a number of examples to show that the tenderness at McBurney's point, supposed to be pathognomonic of appendicitis, is a typical sign of an isolated attack of lead colic or an indication of the onset of a severe exacerbation. In these cases it may be accompanied by colic pains restricted to the right lower region of the abdomen. Also during the subsidence of an attack of lead colic there may be diffuse colic pains and tenderness at McBurney's point without spontaneous pains. This combination rarely occurs at the onset of an attack. During very mild attacks of lead colic the sole clinical sign may be the sensitiveness to pressure of the region, including McBurney's point. There is no doubt that a number of such cases of lead poisoning have been erroneously operated on as cases of appendicitis.

138. **Torsion of Ovarian Hernia.**—Schnitzler states that the case described is the third in which hernia of an infant's ovary was complicated by torsion. There were no severe symptoms on the part of the peritoneum such as are noted in case of torsion of an ovarian tumor in adults. This indicates, he thinks, that the symptoms are not due to the torsion so much as to the irritation from the tumor in the abdominal cavity. An infant's ovary is probably less sensitive to injury than an adult's.

140. **Syphilitic Anemia.**—Samberger explains this condition as the result of the action of the syphilitic poison on the blood corpuscles. It renders them less resistant. Consequently when mercurial treatment is instituted the blood corpuscles are destroyed by the mercury for a time, but soon the effect of the mercury is seen in the improvement in the general condition. As a part of this improvement the corpuscles become more and more resistant and the mercury, which at first had a destructive action on them, ceases to affect them. He thinks that determination of the lesser resistance of the corpuscles will afford insight into the problem whether the syphilitic infection is still restricted to the primary lesion or has already invaded the organism as a whole. He gives the blood findings in 13 cases studied.

141. **Aspiration of Stomach Contents.**—Neumann uses merely a stomach tube and Politzer air bag, and describes the advantages of this combination. In more than 1,000 applications of the stomach tube in this combination he has never had occasion to remove the tube on account of its becoming obstructed. The removal of the air bag from the end of the tube, emptying and replacing it, are easy, simple and generally more cleanly than the use of the funnel from which more or less of the contents is liable to be spilt in the manipulations. The pressure from the air bag is gentle and controllable so that the danger of injury to the stomach wall is reduced to the minimum. The communication issues from Schlesinger's clinic, Vienna.

### Wiener klinische Wochenschrift, Vienna.

*Last indexed XLI, page 1309.*

143 (XVI, No. 42.) *Peripheral Constriction of Pulmonary Artery. M. Weinberger.—Ueber periphere Verengerung der Pulmonalarterie und die klinischen Zeichen derselben.
144 *Hitherto Undescribed Post-Syphilitic Stigma. G. Nobl.—Ueber ein bisher unbeschriebenes post-syphilitisches Merkmal.
145 *Mistakes in Exercise Treatment of Tabes and Their Consequences. A. Frank.—Kunstfehler in der Uebungstherapie der Tabes und ihre Folgen.
146 Zur Kenntnis der Glutäal-Abszesse. D. Kokoris (Athens).
147 (No. 43.) Study of Physiology of Thoracic Vagus and Pulmonary Emphysema. M. Sihle (Odessa).—Experimenteller Beiträge zur Physiologie des Brust-Vagus nebst Bemerkungen über akute Lungen-Blahung.
148 Ueber Grubers Kälte-Einwand gegen die Amboceptor-Theorie. J. Morgenroth.
149 Zur Histologie der hymenalen Atresie der Scheide. L. Wechsberg.
150 *Reducing Size of Nose. A. Neudorfer.—Operative Verkleinerung der Nase.
151 (No. 44). *Ueber die Total-Exstirpation der hypertrophischen Prostata. O. Zuckerkandl.
152 Plastic Operation on Palate with Nasal Septum. O. Föderl—Ueber Gaumenplastik aus der Nasenscheidewand.
153 *Gelatin Hemostasis. L. Moll (Prague).—Die blutstillende Wirkung der G.

143. **Peripheral Constriction of Pulmonary Artery.**—Weinberger comments on the various causes which may induce compression of the peripheral portions of the pulmonary artery, citing extensively from the literature. He mentions among others Kasem-Beck's case of stenosis from compression by a gumma, and v. Schrötter's case, in which both of the main branches of the pulmonary artery were compressed by a metastasis from a locally extirpated uterine cancer. He has observed a personal case in which the physical signs suggested an aneurism or cancer of the descending aorta. The patient was a man of 48, a tavern keeper. The necropsy revealed a carcinoma in the left main bronchus invading the left recurrent nerve and compressing the left pulmonary artery with numerous metastases. The principal physical sign had been a rough, extensive systolic sound heard faintly over the left lung and very loud and rough over the right lung and over the back, its maximum intensity at the right lower margin of the sternum. The sound originating in the main trunk of the pulmonary artery was thus transmitted into the right branch, where the conditions were comparatively favorable for its propagation, while it was arrested in the compressed left branch. He thinks that this sign will enable such a compression to be diagnosed in future.

144. **New Post-Syphilitic Stigma.**—Nobl found the sign he describes in 18 per cent. of 150 syphilitic subjects free from any perceptible manifestations of their disease, that is, in 37 subjects whose infection dated from two to twenty years before. The sign to which he refers is the appearance of the scrotum, indicating atrophy and involution after infectious infiltration. He describes the appearance as an arrangement of the wrinkles on the surface in the form of circles and arcs causing patches of a delicate tracery. The patches are a bluish gray in color and are evidently the result of regressive metamorphosis, and may prove useful in establishing a retrospective diagnosis.

145. **Mistakes in Exercise Therapy of Tabes.**—Frank styles Frenkel's introduction of exercises into the re-education of tabetics as one of the most important achievements of recent years. But at the same time, he says, when it is done without due regard to the pathologic conditions, it frequently does more harm than good. Exercising until exhausted is a frequent fault whose consequences are an aggravation of the condition. He also points out that the chief aim should be to re-educate the trunk, not the legs. Exercises done with the subject reclining merely fatigue without doing the least good. He even suggests that the aggravation which may result from unskillful application of exercise therapy might render the physician liable to pecuniary damages as a thoughtless application of this method of treatment may come under the legal definition of malpractice.

150. **Reducing Size of Nose.**—Gersuny recently operated on a young actor with an unduly prominent nose by resecting part of the framework of the nose through the septum mobile, not disturbing the skin at all. The technic followed is described in detail, with cuts.

151. **Total Extirpation of Hypertrophied Prostate.**—Zuckerkandl gives an illustrated description of his technic and of 13 cases operated on. He also reviews the indications and contraindications for radical intervention. He operated on 8 patients by the perineal route and the results were the restora-

tion of normal micturition in every instance. The lower the prostate and the more prominently it protrudes, the easier it is removed by this route. Diffuse enlargement with the upper margin of the prostate not accessible to palpation, affords much less favorable conditions for intervention. He works through an arc incision in front of the rectum, pushing back the rectum with a broad spatula fastened to the table, which lifts up the prostate. He then slits the capsule and removes the lobes by blunt dissection. The hemorrhage is trifling. His experience with suprapubic prostatectomy was disastrous in the 2 cases in which he attempted it, both patients succumbing to sepsis. The danger of hemorrhage by this route is also great.

153. **Gelatin Hemostasis.**—Moll tabulates the results of extensive experimental research on rabbits and dogs to determine the action of gelatin on the coagulating of the blood. He finds that external application aids in checking hemorrhage by agglutinating the corpuscles. Injected subcutaneously it aids in the production of fibrinogen.

### Medicinskoe Obozryenie, Moscow.

*Last indexed XLI, page 1174.*

154 (LIX, No. 11.) *New Contributions to Pathology of Irresistible Movements Resulting from Focal Brain Affections. V. A. Muratoff (Moscow).—Novye dannya k patologii nasilstvennykh dvizhenii pri gnyezdnykh mozgovykh zabolyevaniakh.
155 Slutchai Narcolepsii. N. E. Kusheff.
156 *Sarcoma in Testicle Retained in Abdominal Cavity. M. N. Shevandin.—Sarcoma yaitchka zaderzhannago v briushnoi polosti.
157 Importance of Thalassotherapy in Scrofula and Tuberculosis. S. Hillerson.—O znatchenii talassoterapii v borbye s zolotukhoi i tuberk ulozom.
158 (No. 12.) Record of 3 Cases of Simultaneous Extra- and Intrauterine Pregnancy. I. M. Lvoff.—Odnovremennaya matotchnaya i vnyematotchnaya beremennost.
159 Case of Ileus from Complication of Pregnancy with Ovarian Cyst. P. I. Kuzmin.—O kishetchnoi neprokhodimosti, kak slyedstvii oslozhneniya ovariaknoi kisty beremennostiu.
160 *Cytodiagnostik exudatov. L. Jacobsohn.
161 *Case of Pulmonary Phthisis with Cavities and Cardiac Defect Terminating in Recovery. P. Otradinski.—Slutchai legotchnoi tchakhotki s kavernami pri odnovremennom porok serdtza. Vyzdorovlenie.
162 *Internal Treatment of Gonorrhea. Reissner (Schoeneberg).—O vnutrennem lyetchenii pereloya.
163 (XL, No. 13.) *Diabetes insipidus v dyetskom vozrastye (in children). A. V. Popoff.
164 Case of Combined Typhoid and ~~Measles~~. A. K. Morozoff.—Slutchai sovmyestnago tetcheniya briushnogo tipha i kori.
165 Case of Cystic Lymphangioma of the Great Omentum. V. S. Dyevitzki.—Slutchai myeshkovidnoi lymphangiomy bolshogo salnika.
166 Abnormal Chorda Tendineæ in Human Heart. I. F. Pozhariski.—O strunakh v serdtzye tchelovyeka.

154. **Irresistible Movements in Focal Brain Affections.**—Muratoff gives the clinical course and postmortem findings in a case which he thinks sustains his previous announcements in regard to the dependence of the uncontrollable movements on the destruction of the system of cerebellar peduncles. The character of the movements differs from that of cortical contractions in both the clinical and anatomic aspect, as he shows by cuts and analysis of his own experience and that of others published in the last few years.

156. **Sarcoma in Retained Testicle.**—The patient whose case is described by Shevandin was 33 years old. He had noticed pain in the right abdomen for several months and the development of a tumor. Shevandin has found 15 similar cases on record, the nature of the tumor varying. The clinical diagnosis in his case was sarcoma of mesentery and retained testicle, confirmed by an exploratory laparotomy. The patient was too weak for further intervention and died not long after. The findings are described in detail, with cuts.

160. **Cytodiagnosis of Exudates.**—Jacobsohn's observation of 14 cases has convinced him of the great value of cytodiagnosis for the differentiation of exudates. His experience has confirmed in every respect the announcements of Ravault and Widal in regard to the certainty of tuberculous infection when a serous or sero-fibrinous exudate contains lymphocytes and red corpuscles alone. This applies both to pleuritic and ascitic exudates. Inoculation of guinea-pigs always resulted in tuberculosis when the exudate was of this character and otherwise not. These findings were also always corroborated postmortem. Neutrophile cells predominated in the exudate in 2 cases of empyema of the pleura. In one case of cirrhosis of an atrophied liver the exudate contained merely polynuclears and endothelial cells, and no traces of tuberculosis could be discovered at the necropsy. He, therefore, in conclusion commends the method of cytodiagnosis as an important aid for differentiation of pleuritic and other exudates by the general practitioner.

161. **Recovery with Lung Cavities and Heart Defect.**—The patient in this case was a woman of 48, and several physicians confirmed the diagnosis of chronic pneumonia with cavities, and febrile exacerbations, night sweats, extreme emaciation and edema of the limbs and other evidences of mitral insufficiency and stenosis of the left auriculo-ventricular opening. The dyspnea was so pronounced that it not only prevented sleep, but also interfered with speaking and swallowing. The condition was the outcome of constantly progressing illness during a series of years. As the anticipated speedy dissolution did not follow, the patient was taken away from the clinic by her friends, the only advice given her being to "live on milk." She returned four months later in good health and spirits. She had been taken by her brother to his home in the country—carried on a bed in a wagon—and took no medicines but progressive quantities of milk, the maximum finally reached being a "half a pail" a day. Examination of the lungs showed absolute dulness over the sites of the former cavities, with bronchial breathing and no râles. The heart was working in a state of perfect compensation. Two years later Otradinski had occasion to carry this same patient through an attack of articular rheumatism, from which she rapidly recovered.

162. **Internal Treatment of Gonorrhea.**—Reissner commends the favorable action of gonosan, a combination of oil of santal and kava-kava, as an internal remedy in gonorrhea. He has used it in 35 cases and found that it materially improved the distressing symptoms, especially the desires to urinate and painful erections, while the pus became liquefied. The only exceptions to this beneficial action were in cases of chronic cystitis.

163. **Diabetes Insipidus in Children.**—Popoff states that 10 cases of this affection in children have been published in Russia, with 6 of diabetes mellitus. He describes 2 additional cases of the former and remarks that the maximum duration has been six years. An inherited nervous predisposition was evident in about half of the cases. In 2 there had been a preceding trauma affecting the head, with epileptic seizures. The age ranged from 18 months to 14 years. In treatment he gave valerian, Fowler's solution and quinin. The prognosis is favorable in general. In 4 out of the 12 cases the improvement was marked and permanent, but a favorable environment is an important factor in recovery.

### Russkii Vratch, St. Petersburg.

*Last indexed XLI, page 1590.*

167 (II, No. 22.) *Finding of Typhoid Bacilli in Roseola. G. N. Kazarinoff.—Eberth'ovskiya palotchki v briushno-typhoznykh roseolakh.
168 Classification of Glaucoma. Committee Report.
169 *Splenectomy and Talma's Operation in Case of Ascites of Malarial Origin. B. K. Finkelstein.—Slutchai udaleniya selezenki i operatzie Talma pri briushnoi vodyankye bolotnolikhoradotchnago proiskhozhdeniya.
170 Case of Local, Symmetrical Ichthyosis. S. V. Znamenski.—Slutchai myestnago ikhtioza.
171 (No. 23.) *Influence of Nerves of Taste on Digestion. P. Y. Borisoff (Odessa).—Znatchenie razdrazheniya vkusovykh nervov dlya pishtchevareniya.
172 Case of Progressive Pernicious "Tapeworm Anemia," with Study of Anemic Heart Sounds. V. F. Orlovski.—K utcheniyu o glistnom zlokatchestvennom narostayushtchem malokrovii i o t. naz. malokrovykh serdetchnykh shumakh. (Commenced in No. 22.)
173 (No. 24.) *Experimental Study of Adrenalin. V. F. Simonovitch.—Materialy k voprosu o dyestvii adrenalina.
174 *Case of Syphilitic Jaundice. T. K. Geisler.—Slutchai zheltukhi.
175 Dislocation of Shoulder, etc., in Syringomyelia. S. S. Nablandoff.—O vyvikhakh pletcha pri syringomielii.
176 (No. 25.) Fat Ferment (lipase) in Intestinal Juice.—V. N. Boldireff.—O zherovom fermentye (lipazye) v kishetchnom sokye.
177 *Clinical Study of Movable and Wandering Kidney. V. L. Janovski.—O podvizhnoi i bluzhdayushtchei potchkye (Commenced in No. 24.)
178 *Slutchai "polyarthritis syphilitica." K. Z. Villanen.
179 (No. 26.) *Relations Between Taste and the Needs of the Organism. P. Y. Borisoff.—Cootnoshenie mezhdu vkusom i potrebnostyami organizma.
180 *Hypnosis in Incurable Organic Disease. A. A. Pyevnitzki.—Hypnoz pri neizlyetchimykh organitcheskikh porazheniyakh.

181 *Suture of the Bladder After Suprapubic Lithotomy. V. V. Rozanoff.—K. voprosu o shvye motchevogo puzyrya.
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## Original Articles.

### PERITONEAL SALINE INFUSIONS IN ABDOMINAL OPERATIONS.

A COMBINED CLINICAL AND LABORATORY STUDY OF THEIR EFFECTS.*

JOHN G. CLARK, M.D.
Professor of Gynecology in the University of Pennsylvania,
AND
CHARLES C. NORRIS, M.D.
Instructor in Gynecology in the University of Pennsylvania.
PHILADELPHIA.

*(From the William Pepper Laboratory of Clinical Medicine, Phoebe A. Hearst Foundation.)*

At the St. Paul session of the American Medical Association we presented a paper[1] on "The Practical Application in Abdominal Surgery of Scientific Investigations Concerning the Function, Anatomy and Pathology of the Peritoneum," in which the employment of infusions of normal saline solution into the peritoneal cavity after all abdominal operations was advocated. The theory as to its value was based on the proved physiologic fact that there are well-defined currents which waft minute bodies from the lower or more dependent part of the peritoneal cavity toward the diaphragm, through which they gain entrance into the retroperitoneal lymph channels, and thence into the general blood channels. Our experimental work, at that time, had been confined solely to tracing the course of minute innocuous granules, such as India ink and carmine, from the peritoneal cavity into their more remote places of lodgment. This series of experiments unquestionably demonstrated that any foreign material in a finely divided granular state will be transported quickly from the peritoneal cavity; and in some instances, within eight hours, these minute bodies were found deposited in the marrow of the long bones, such as the femur and humerus. They were likewise found in the kidneys, liver, lungs, intestines, and even in the gall bladder in considerable numbers. From these observations we reached the conclusion that not only the kidneys, but likewise the liver, intestines, and even the lungs participated in the elimination of these granules. The employment of saline infusions in the peritoneal cavity is not a novel suggestion, but has been the subject of many active discussions, for it has been earnestly advocated by some surgeons and strongly deprecated by others. From the clinical standpoint we have very closely studied this question for the last five years, and have every reason to extend rather than to limit its employment.

In presenting the results of our experiments at the St. Paul session we recognized discrepancies in our own work, in that we had not yet had sufficient time to carry out, with lethal micro-organisms, experiments analogous to those which we had conducted with innocuous foreign particles. It is the object of this paper to detail the experimental work conducted along the latter line.

Certain general principles which have been established by the combined work of many observers are worthy of restatement before we take up the review of our laboratory and clinical observations. When infectious micro-organisms are introduced into the peritoneal cavity, the lymph and leucocytes which are normally present as a circulating peritoneal medium at once assume a combative rôle. An immediate increase of leucocytes is noted (temporary leucocytosis); but after a few minutes these are transported into the general lymph paths and for a short space of time there is a marked deficiency of leucocytes (leucopenia). Then an exaggerated peritoneal leucocytosis is noted, the intensity of which is in direct proportion to the degree of the irritation. Thus a very irritating fluid, such as turpentine or glycerin, may give rise to so profuse an exudation of serum and escape of leucocytes from the blood vessels into the peritoneal cavity as to actually cause the animal's death through excessive depletion.

In experimental infections of the peritoneum, the index of lethality may be judged by the varying degrees of leucocytosis. Thus an excessive degree of leucocytosis followed by a rapid decrease with increasing gravity of symptoms indicates that the toxicity of the micro-organisms has overcome all phagocytosis or germicidal action of the blood serum, and that there will be a fatal result. Not only on the quick delivery into the peritoneal cavity of serum and leucocytes, but also on their rapid exit depends the safety of the patient in the first stages of peritoneal infection. There are no blood vessels within the body capable of such quick action in this physiologic function as those circulating in the omentum, which hangs as a movable, dependent apron over the intestines. Ramifying in all directions throughout this apron are widespread capillary anastomoses of extremely thin-walled vessels, which provide the best anatomic conditions for the rapid escape of leucocytes and serum into the peritoneal cavity.

If there is this excessive peritoneal leucocytosis after an infection, or from traumatic or chemical irritation within the abdominal cavity, the blood examination after an abdominal operation should serve as an indicator of this phenomenon. Already clinical observations have proved the constancy of the increased leucocytosis after even a minor abdominal operation. A very careful and systematic series of observations has been made

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

[1] The Journal A. M. A., Aug. 10, 1901, p. 360.

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One case of obstruction and two of empyema were omitted from this table, as in the two latter animals infection had probably occurred previous to operation; in the obstruction case, cultures were sterile. In every case the autopsy was made as soon as possible after the death of the animal, usually within two to five hours.

A stock culture of the micro-organism (*Staphylococcus pyogenes aureus*, described above) was made and used throughout; this culture was plated from time to time, to insure freedom from mixed infection. The method of preparing a culture was as follows: Two test-tubes containing sterile bouillon were inoculated from the stock culture. These were placed in the incubator for forty-eight hours, by which time the culture would be decidedly cloudy. In all cases in which a pair of rabbits (one test and one control) was used, an effort was made to procure animals as near the same weight as possible. Only healthy looking rabbits were selected. Ether was administered at each injection, so as to simulate, as much as possible, an actual operation and also to prevent any unnecessary suffering of the animal.

*Method of Operation.*—The lower part of the abdomen was shaved and cleaned with green soap, alcohol, ether and bichlorid of mercury solution. The syringe and needle were boiled and cooled in sterile water. The amount of culture to be injected was measured in a sterile pipette, diluted with 4 c.c. of water, and injected into the peritoneal cavity, care being taken not to wound the intestines, omentum or other organs. In cases in which the salt solution was used, 100 c.c. were introduced through the same canula. A collodion dressing was applied over the seat of the puncture. The animals were carefully marked and placed in large boxes, with plenty of fresh food and water and the greatest care was observed to make the animals as comfortable as possible after the operation.

### SUMMARY OF POSTMORTEM FINDINGS.

The following diagnoses were made at autopsy on the test animals:

R. 2. S. Early fibropurulent peritonitis, mixed infection.
R. 3. S. Fibrinous peritonitis, mixed infection.
R. 5. S. Obstruction of large intestine. Localized abscess in abdominal wall, walled off from peritoneum.
R. 6. Toxemia.
R. 7. General infection. Pneumonia, abscess in both kidneys, general purulent peritonitis.
R. 9. Pneumonia (double); possible fibrinous peritonitis.
R. 12. General fibropurulent peritonitis.
R. 15. Toxemia.
R. 16. General fibropurulent peritonitis, mixed infection.
R. 18. General infection?
R. 19. General purulent peritonitis.
R. 20. Right-sided empyema.
R. 21. Similar to 20.
R. 22. Fibropurulent peritonitis.

Microscopic preparations were made from the different organs. Cloudy swelling was almost invariably found in the liver, spleen and kidney; in general, however, this was not marked. The lungs were usually congested, and it was not uncommon to find red blood corpuscles in the alveolar spaces. In some instances, micro-organisms were found in the stained tissue.

From this review of our experimental work the evidence is conclusive that a large percentage of the animals in which the normal salt solution was injected immediately after the bouillon culture of *Staphylococcus aureus* was saved by this means.

It has been asserted that the distribution of infectious matter within the peritoneal cavity is not only valueless but very dangerous. From a clinical standpoint we have amply proved that the latter statement is ungrounded; for in a series of 254 laparotomies, in which peritoneal infusions were very largely employed, only seven deaths occurred.[3] In one, a case of general miliary tuberculosis of the peritoneum, death occurred two months after the operation from a general involvement of the lungs and other organs of the body. The second was a case of cancer of the cervix, in which panhysterectomy was performed; no salt solution was used as the pelvic diaphragm was not completely closed, and therefore the solution would not be retained. In this case, the patient died within twenty-four hours after the operation from pulmonary emboli. The third was a general purulent peritonitis; the patient was *in extremis* at the time of the operation, which was hastily performed in the vague hope that she might be saved. Death occurred, however, before the patient reached the hospital ward. In the fourth, a case of general cancer of the peritoneum, only an exploratory laparotomy was performed. No infusion was employed because the peritoneum was already overtaxed and unable to free itself of ascetic fluid. This patient died one week later from the general progress of the disease.

As will be seen from the brief statement of these four cases, the use of the salt solution had nothing whatever to do with the death, for in two of the cases it was not used, and in the other two in which it was employed no ulterior effect could be ascribed to it; for the patient suffering from general tuberculosis survived for two months after the exploratory incision, and the second expired on the operating table.

The three remaining cases were as follows: in one, a patient suffering with a large cystic myoma, death occurred within twenty-four hours after the operation from a virulent fulminating streptococcic infection. This case showed the most intense toxic symptoms and death came with the rapidity which is so characteristic of this fatal poison. In this case, certainly the salt solution in no way retarded the progress of the symptoms. This case also proves the point which we have insisted on, namely, that given a virulent streptococcic infection, in some instances practically nothing which we know of can save the patient. In the next case, the patient was operated on for chronic appendicitis, with extensive adhesions, and right-sided salpingitis; death occurred on the fourth day from intestinal ob-

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[3] These were as follows:
Myomectomy, 4.
Hysteromyomectomy, leaving ovaries, 26.
Hysteromyomectomy with salpingo-oöphorectomy, 4.
Hysterecto salpingo-oöphorectomy, 7.
Panhysterectomy, 10.
Bilateral salpingo-oöphorectomy for pyosalpinx, 18.
Unilateral salpingo-oöphorectomy, 37.
Suspensio-uteri with operation on adnexa, 25.
Suspensio uteri with plastic operation on cervix or vagina, or both, 53.
Suspension alone or combined with Webster's operation alone, 26.
Gall-bladder operations alone or combined; if combined, included above as well, 4.
Exploratory laparotomy or laparotomy and drainage, 16.
Relief of adhesions, 2.
Appendectomy alone, 9.
Appendectomy combined with other peritoneal operations, 37.
Hernia alone or combined with other peritoneal operations, 14.
Kidney operations alone or combined with other peritoneal operations, 4.
Laparotomy, etc., including inguinal colostomy, etc., 3.
Total number of laparotomies, 254.
Total number of deaths, 7.

In this list of operations only those performed in the Hospital of the University of Pennsylvania have been drawn on for conclusions; for here our conditions were always uniform and the cases were under our constant observation. Were we to have tabulated the large number of operations performed in the St. Agnes, Bryn Mawr and Presbyterian hospitals the mortality statistics would have been about the same.

# THE PHYSIOLOGY OF THE SYMPATHETIC IN RELATION TO THE EYE.*

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[Dr. de Schweinitz reviewed the entire literature pertaining to the subject, and from this review and the various opinions of the authors quoted thought the following conclusions might be drawn:]

1. Although *lachrymal secretion* may be caused by excitation of the sympathetic, and increased lachrymation by section of the cervical sympathetic or removal of the superior cervical ganglion, the sympathetic itself should not be considered the nerve of secretion for the lachrymal gland.

2. Dilatation of the pupil is probably caused by contraction of a set of radially arranged muscular or contractile fibers, the so-called dilatator pupillæ, which is supplied by the sympathetic, and by inhibition of the sphincter of the iris. The *dilating impulse transmitted to the iris passes* through the cervical sympathetic and in general terms along the mydriatic tract of the pupil, which proceeds from a center in the medulla as far as the second dorsal nerve, follows its communicating branch to the cervical sympathetic, and *arrives at the internal* carotid plexus, from which point it passes to the nasociliary branches of the nasal nerve, which as the long ciliary nerves supply the muscular tissue of the iris.

3. Although *experimental and clinical evidence favors* the presence of a center situated between the spinal cord and the exits of the sixth cervical and fourth dorsal nerves, to which Budge relegated the origin of the pupil-dilating fibers of the sympathetic, its existence has not been definitely proven.

4. Although the nature of the ciliary ganglion has not been positively determined in any one species of animal, and, although it differs greatly in different species, the weight of evidence is in favor of the ganglion belonging to the sympathetic system, at least in so far as man is concerned. The root fibers which belong to the oculomotor end in the ciliary ganglion, where a new neuron begins for the fibers which pass to the ciliary muscle and the sphincter of the pupil, i. e., the oculomotor does not act directly on the sphincter of the pupil, but only in association with the ciliary ganglion. There is a certain amount of evidence that this ganglion is related to the pupil movements in the form of a center, and it probably contains cells which are active in the sensibility of the cornea, but lesions of the ganglion itself, although they have been considered by Grosz to be the basal cause of true neuroparalytic keratitis, have not been proved to sustain this position by experiments, inasmuch as trophic changes have not been observed after extirpation of the ganglion. Removal of the ganglion has little or no *influence on intraocular* tension, and its excision is not a rational procedure for the relief of glaucoma.

5. There is *no* satisfying evidence that the sympathetic is related to the function of accommodation, and it has not been proved that the *sympathetic* has any power in causing negative accommodation, nor has it been demonstrated that alterations in refraction noted after stimulation of the sympathetic are due to actual change in the lens.

6. Electrical stimulation of the cervical sympathetic produces at first an increase and later a decrease of intraocular tension, the increase being probably due to an effect on the vessels of the eye. *Slow-acting*, mechanically produced irritation of the sympathetic causes a rise of tension, which, according to Lodato, is independent of dilatation or constriction of the blood vessels, and also independent of the state of the pupil. Section of the sympathetic, or extirpation of the *sympathetic* ganglion, is followed by a fall of intraocular tension, which probably depends on vascular and, perhaps, muscular changes. The lowering of tension is more decided after excision of the ganglion than after section of the sympathetic cords, but in either case the effect is a temporary one, and may not last more than a few days, and sometimes disappears within a few hours.

7. Electrical stimulation of the cervical sympathetic produces on the side stimulated a dilatation of the pupil as a result of contraction of the dilatator pupillæ, associated, perhaps, with an inhibition of the sphincter. At the same time there may occur on the opposite side a contraction of the pupil, which either depends on the consensual pupil reflex, or represents a reflex transmitted through the sympathetic fibers joining the cranial nerves in the region of the cavernous sinus.

8. Electrical stimulation of the cervical sympathetic causes retraction of the nictitating membrane and proptosis, owing to the action transmitted to the unstriped muscular fiber. In contrast to the general rule, irritation of the sympathetic in rabbits causes a retraction of the eyeball in the orbit, which has been attributed by Heese to a contraction of the orbital vessels and the anemia which this causes.

9. Electrical stimulation of the cervical sympathetic *is followed by contraction of the blood vessels of the* conjunctiva and of the iris, and perhaps by alteration in the caliber of the vessels of the retina, although observations on the last-named phenomenon have been extremely contradictory.

10. Stimulation of certain areas of the brain cortex causes dilatation of the pupil, associated, if the cervical sympathetics are intact, with all the symptoms of stimulation of the cervical sympathetic. Division of the sympathetic stops the other symptoms, but not the dilatation of the pupil, which is supposed to be due to inhibition of the tonic action of the third nerve (Parsons).

11. Sympathectomy or gangliectomy causes the following effects: Myosis, narrowing of the palpebral aperture, projection of the nictitating membrane, retraction of the globe of the eye, hyperemia of the vessels of the conjunctiva, increased lachrymal secretion, diminished intraocular tension, certain ophthalmoscopic and microscopic lesions in the eyeground, and possibly trophic disturbances.

12. *The symptoms of sympathetic section or paralysis* lessen after a time, myosis being the most permanent, lasting sometimes for years. The degree of permanence, however, of the paralytic phenomena varies much in different animals.

13. Myosis is greater after excision of the cervical sympathetic ganglion than after section of the sympathetic cord, because it is probable that a certain tone is exercised by the ganglion; that is, that it has a different, and, as it was, a stronger action on the eye than the nerve trunk itself (Levinsohn).

14. All the phenomena of paralysis of the sympathetic nerve, especially the contraction of the pupil, which follow extirpation of the superior cervical gang-

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* Author's abstract of a paper read at the Fifty-Fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John F. Weeks, and published in full in the Transactions of the Section. Only the conclusions of the paper are here given.

lion gradually become less marked and may disappear or even give place to the opposite condition, especially if the animal is anesthetized or subjected to sensory or emotional stimuli. In other words, extirpation of the upper cervical ganglion causes the symptoms of sympathetic paralysis which may disappear and give place to the signs of sympathetic excitation. Such paradoxical pupillary dilatation may depend on degenerative processes in the post-cellular nerves of the ganglion (Langendorff).

15. The myotic pupil, which follows sympathectomy or gangliectomy, responds to light stimulus, is still further contracted by eserin, and may be dilated by atropin. It is uninfluenced by cocain, which, however, may exercise its influence in widening the contracted palpebral fissure.

16. A considerable excision of the sympathetic must be made in order to prevent a rapid regeneration.

17. Narrowing of the palpebral fissure, ptosis sympathica, and enophthalmos are probably due to relaxation of Müller's muscle, aided, perhaps, by atrophy of the orbital fat. It has not been proved, although it has been asserted, that there is an actual reduction in the size of the globe, that is, a true microphthalmos, under these circumstances.

18. Sympathectomy or gangliectomy may cause increased vascularization of the eyeground, perhaps hemorrhages in the ciliary body and ciliary processes, and alteration in the retinal ganglion cells.

19. Puncture of the restiform body produces just the opposite effects of destruction of the sympathetic (Dupuy).

20. Nicotin paralyzes the activity of ganglionic nerve cells in the sympathetic. Cocain dilates the pupil by stimulating the mydriatic nerve endings in the iris. Atropin dilates the pupil, partly by a paralytic action on the oculomotor endings of the sphincter, and, perhaps, by a stimulant action on the sympathetic nerve fibers, or more likely, by causing a general paralysis of the unstriped pupillary muscle. Instillations of adrenalin, ordinarily inactive in causing dilatation of the pupil, become exceedingly active when the sympathetic is cut or the ganglion removed, and cause under these circumstances marked dilatation of the pupil.

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# INFLUENCE OF RESECTION OF THE CERVICAL SYMPATHETIC

## IN OPTIC-NERVE ATROPHY, HYDROPHTHALMOS AND EXOPHTHALMIC GOITER.[*]

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### I. SYMPATHETICECTOMY IN OPTIC-NERVE ATROPHY.

*History.*—Excision of the cervical portion of the sympathetic nerve for the relief of optic-nerve atrophy was proposed and executed by the writer in 1899. (The date of the first operation was June 24.)

*Report of Cases.*—A report of this case was included in a paper[1] which was read before the Ninth International Ophthalmologic Congress, in 1899. From that paper I now quote:

T. J., aged 46, an inmate of the St. Louis City Hospital, a laborer, was admitted on account of blindness. There was no history of syphilis, rheumatism nor any systemic disease. The patient was of limited mentality. No history of his family could be obtained. He claimed to have had good health all his life, with the exception of an attack of malarial fever several years ago. The patient has been a moderate drinker of alcoholic beverages. In appearance he was robust, and he complained only of loss of vision, which in the left eye had been failing for eleven months, in the right for seventeen weeks according to his statement. Until seventeen weeks before this time he could see enough with the right eye to get around. Since then vision had steadily declined until he had light perception only—and this apparent only when light was concentrated on the eye by the ophthalmoscopic mirror. Vision of left eye =0.

The pupils were widely dilated. The ophthalmoscope showed in the right eye a white disc, particularly on the temporal side; the arteries were slightly reduced in caliber, veins normal. There was shallow, atrophic cupping of the nerve-head. The retina and choroid were normal, the vitreous and lens clear. The left eye showed a disc of a dead white color throughout the whole area, arteries very small, atrophic excavation pronounced, veins reduced in caliber and choroid normal. The macula was not visible in this eye, owing to the much reduced blood supply. The vitreous and lens were clear. Vision was as follows: R. E. = perception of concentrated light. L. E. =0.

*Diagnosis.*—R. E.= optic nerve atrophy. L. E. = complete atrophy of optic nerve and retina.

*Treatment.*—Resection of the right superior cervical ganglion of the sympathetic was done. The operation was followed by conjunctival congestion, lachrymation and contraction of the pupil, slight ptosis and hypotonia.

No appreciable change in the patient's vision followed, and ophthalmoscopic examination made two weeks after operation showed no change in the appearance of the fundus, except that a cilioretinal artery in the upper part of the disc had doubled in caliber.

I was led to make this experimental operation for several reasons: 1. The use of glonoin is often followed by an improvement in vision in cases of simple atrophy of the optic nerve. 2. Glonoin enlarges the retinal vessels, as has been proved by ophthalmoscopic examination. 3. There is no question that in glaucoma simplex—a disease in which there is an atrophy of the optic nerve—improvement in vision follows sympatheticectomy. 4. Excision of the cervical sympathetic is followed by an increase in the blood supply of the orbital contents.

My second case of sympatheticectomy for optic nerve atrophy occurred in the summer of 1900. It has not been reported, for the reason that an assistant lost the case history. The result, however, was all that could be expected.

The patient was an Irishman, a bartender by occupation. He was about 40 years of age. For several months the vision of both eyes had steadily declined. Several oculists had given him medical treatment for simple optic-nerve atrophy without result. The poorer eye had vision equal to the counting of fingers at two feet. I excised the superior cervical ganglion of the sympathetic nerve on the corresponding side. Vision steadily increased to 20/100. The patient was lost sight of, but one year later he sent word that his vision was excellent and that he was following his vocation.

I regret that this case can not be more fully described. My third case of atrophy treated by sympatheticectomy occurred in 1901.

J. H., aged 64 years, a native of New York City, for 18 years had been a sailor. For many years he was excessively addicted to the use of alcohol and tobacco. In 1888 he contracted syphilis, for which he was treated for two months. Vision in R. E. began to fail in 1898; in L. E. in 1900. He was admitted to the St. Louis City Hospital on Jan. 29, 1901. The hospital record shows that he was in good general health. He was given large doses of mercury and iodids.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Ball: On Removal of the Cervical Sympathetic in Certain Ocular Diseases—Glaucoma and Optic Nerve Atrophy, Neuvième Congrès International d'Ophtalmologie d'Utrecht, 1899, p. 551.

Patient came under my care on March 1, 1901. His general condition was good. Vision of R. E. =0; of L. E. = fingers at 6 inches. The ophthalmoscope showed a *typical* picture of simple atrophy of the optic nerves. Strychnia in increasing doses was ordered and was continued for five weeks without benefit.

On April 11, 1901, assisted by Dr. R. F. Amyx, I excised the left superior cervical ganglion of the sympathetic nerve. At this time the right eye was absolutely blind; with the left eye fingers could be counted at 6 inches. Two days after the operation he counted fingers at 15 feet. On April 27 he counted fingers at 12 feet. There was a gradual loss of vision, until at the end of a few weeks the patient was in the same condition as before operation.

*Cases Reported by Other Surgeons.*—Suker[2] performed a bilateral sympatheticectomy in a case of bilateral simple atrophy of the optic nerve. Before operation the visual acuity was reduced to form perception at two feet. After operation the hand could be recognized at six feet. Two years later the acuity was retained.

Renaud[3] has reported one of my cases and two of his own. In January, 1900, he made a bilateral sympatheticectomy for a unilateral optic-nerve atrophy which followed an attack of optic neuritis existing four months previously. Vision was reduced to the counting of fingers at six feet. Four and one-half months later the patient could count fingers at eighteen feet (V.= 20/100). Renaud's other case, which was one of simple atrophy, showed in two months an improvement in vision from 10/200 to 20/50. Renaud[4] has operated on another case without success.

E. Gruening[5] of New York has had one case which is best described in his own words:

> My experience with the excision of the superior cervical sympathetic ganglion in atrophy of the optic nerve is limited to one case. It concerned a man, 33 years of age, who had contracted syphilis fifteen years previously. When I saw him in 1902 he was entirely blind as regards his left eye, but saw well centrally with his right. Here the field was telescopic, measuring ten degrees in diameter. Vision was 20/30. He read J. 1. Pupils small. Argyll-Robertson reaction—knee reflexes lost entirely—a case of post-syphilitic tabes with atrophy of the nerves. The ganglion was removed on the right side. Vision became worse and three months later the man was totally blind.

Thus, of 8 cases in which sympatheticectomy was performed by optic-nerve atrophy, there were 4 failures and 4 improvements.

*Should Bilateral Resection be Done for Unilateral Atrophy?*—At the present time it is impossible to answer this question *ex cathedra.* Renaud states that "the superior cervical ganglion should be removed on both sides in all cases, whether the affection be unilateral or bilateral." It is possible that the unexcised ganglion exerts an influence on the opposite eye, the anatomic path probably being through anastomosis of fibers in the carotid plexus.

### II. TREATMENT OF HYDROPHTHALMOS BY OPERATIONS ON THE SYMPATHETIC NERVE.

Few cases of congenital hydrophthalmos have been treated by operations made on the cervical sympathetic. Palmtag and Nolle removed the superior ganglion, while Schwilke and Mader performed sympatheticotomy. These four patients were 8, 2½, 4½ and 9 years of age, respectively. The tension was uninfluenced, and the vision, so far as could be determined in such young subjects, was unchanged. The operations, consequently, were valueless. Grunert[6] states that the general health of these children was not influenced by these procedures.

### III. OPERATIONS ON THE SYMPATHETIC NERVE FOR THE RELIEF OF EXOPHTHALMIC GOITER.

Exophthalmic goiter is a disease belonging to the domains of the ophthalmologist, neurologist, surgeon and general practitioner.

Without desiring to enter into a résumé of the literature of the last ten years or to excite a discussion on the nature of the disease, I will remark that there are good reasons for dividing cases of exophthalmic goiter into three groups, as advocated by Lanphear:[7]

1. Those dependent on changes in the central nervous system, in which no operative measures can be of benefit.

2. Those due to disease of the cervical sympathetic, in which excision of the ganglia may give relief.

3. Those arising from excessive thyroid secretion, in which thyroidectomy may cure.

Granting that a certain percentage of cases will recover spontaneously; that some will show great improvement without treatment; that others will recover under the rest cure, or by change of climate, or by the influence of pregnancy; and that some will recover under the use of such diverse measures as cauterization of hypertrophied inferior turbinated bodies, the removal of nasal polypi, the painting of the thyroid region with collodion, the use of the galvanic current, or of the faradic current the administration of iron, quinin, belladonna, digitalis, strophanthus, hydroiodic acid, ergot, spartein, salicylate of soda, corbolozate of ammonia, thyroid extract, etc., there will still remain a not inconsiderable number of cases in which surgical intervention will be required.

Before resorting to any form of operation it is well to remember (1) that no surgical procedure will cure all cases, and (2) that sudden death has not infrequently followed carefully planned and skilfully executed operations made on this class of patients. Harris[8] has reported the death of a lady who, having exophthalmic goiter, was operated on for the removal of a non-malignant mammary tumor and died suddenly. Lancereaux[9] has called attention to the danger of sudden death after goiter operations, and has commented on the great value of morphin in such patients. Warren[10] has advanced the idea that during the operation a toxic substance from the thyroid may gain admission to the circulation and cause death. Booth[11] states that, owing to the care which is now exercised in the removal of the diseased gland, this theory is no longer tenable.

Patients with simple goiter often do badly under general anesthetics. In addition to the dangers pertaining to such cases, the patients with exophthalmic goiter must face other dangers. The chance of death from chloroform, according to Halstead,[12] is much increased by the degenerated heart muscle and the increased irritability of the heart centers; and in the retrosternal and retroclavicular forms of goiter ether anesthesia is equally dangerous. Fütterer has shown that collapse of the trachea, which may occur after operation for any form of goiter, is due to mucoid degeneration of the cartilaginous tracheal rings. The patient makes a violent inspiratory effort, collapse of the trachea results and death occurs by asphyxia. Because of these dangers, not a few surgeons, including Kocher,[13] believe that goiter operations should be performed under local anesthesia.

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[2] Suker: New York Medical Journal, Feb. 24, 1900.

[3] Renaud: St. Louis Medical Review, Feb. 1, 1902.

[4] Renaud: Personal communication, April 30, 1903.

[5] Gruening: Personal communication, March 23, 1903

[6] Grunert: Die Behandlung des Glaucoms durch Sympatheticusresection, Bericht xxviii, Versammlung der Ophthalmologischen Gesellschaft (Heidelberg, 1900), Wiesbaden. 1901, p. 19.

[7] Lanphear: St. Louis Medical and Surgical Journal, May, 1900.

[8] Harris: British Medical Journal, May 4, 1901.

[9] Lancereaux: La Semaine Médicale, Paris, January, 1894.

[10] Warren: American Year-book of Medicine and Surgery, Philadelphia, 1896, p. 289.

[11] Booth: Radical Cure of Exophthalmic Goiter, Journal of Nervous and Mental Diseases, September, 1902, p. 521.

[12] Halstead: Pathogenesis and Surgical Treatment of Exophthalmic Goiter, Medicine, September, 1902.

### CLASSIFICATION OF OPERATIONS ON THE CERVICAL PORTION OF THE SYMPATHETIC NERVE.

These procedures, which have been tried in the treatment of exophthalmic goiter, are:

1. Simple division of the cervical sympathetic (first suggested by Edmunds[14] in cases in which perforation of the cornea is threatened, and first performed by Jaboulay).
2. Ablation of the cervical sympathetic, consisting in the torsion and ablation of the nerve by means of artery forceps passed through a small incision (Jaboulay's procedure).
3. Simple stretching of the cervical sympathetic (first practiced by Jaboulay).
4. Partial resection of the cervical sympathetic (first performed by Alexander of Edinburgh, in 1889, for the cure of epilepsy, and limited by him to the removal of the superior ganglion).
5. Partial and extensive resection (excision of the upper and middle ganglia with the intervening strand).
6. Total resection of the cervical sympathetic (removal of all three ganglia and the nerve strand). This was first performed by Jonnesco.
7. Thyroidectomy with partial and extensive resection of the cervical sympathetic, was suggested by the writer in 1901, in a case under the care of Dr. F. Robert Boyd, and was practiced by Dr. J. W. Smith of St. Louis.

The comparative value and mortality of exophthalmic goiter operations can not be definitely determined, because (1) many cases ending in death have not been reported, and (2) not all of the published statistics are reliable, there being in some of the published reports an absence of differentiation between the various procedures practiced on the sympathetic nerve.

1. *Thyroidectomy.*—The general mortality of this operation is 7 per cent. (Booth[15]), while the percentage of death in cases of exophthalmic goiter is much higher. Rehn[16] of Frankfurt, who collected 177 cases, places it at 13.6 per cent. Tricomini[17] (72 cases) places the mortality at 15 per cent., and Sorgo[18] (172 cases) at 14 per cent. Jonnesco[19] claims that the mortality is over 17 per cent., and rejects the operation because of the high death rate. Kocher's[20] recent statistics are very favorable. He made 59 operations: 45 cases (76 per cent.) were cured; 8 (14 per cent.) were improved; 2 (3.3 per cent.) were slightly improved, and 4 (6.7 per cent.) died. When we remember that many of the unsuccessful cases have not been reported, it seems reasonable tó place the mortality of thyroidectomy for exophthalmic goiter at 20 per cent. Rehn[21] claims 57.6 per cent. of cures for thyroidectomy. Jonnesco claims that the reported successes of this operation have been largely among those atypical cases in which the goiter long preceded the ocular and cardiac symptoms. Doyon is a strong advocate of thyroidectomy, and would resect the sympathetic only after failure of the former operation.

The danger of sudden death after thyroidectomy is emphasized by Starr's report. Of 190 cases, not less than 23 died suddenly. Surrel,[22] who has recently discussed this subject, attributes these accidents to either an acute thyroidin intoxication, or to a sudden stoppage of the heart's action. The latter is supposed to be caused by the traction which, during the operation, is exerted on the nerves of the thyroid gland, which are intimately associated with the vagus nerve.[23] After thyroidectomy a number of complications have been observed, such as a rise of temperature, which is accompanied by a sensation of heaviness, dyspnea, tachycardia and vomiting. Hemorrhages, tetany and vocal disturbances, dysphagia and bronchopneumonia have also been observed.

2. *Ligation of the thyroid arteries,* according to Rehn,[24] gives a mortality of 28.6 per cent.; 2.4 per cent. were cured, and 50 per cent. were improved. Regarding this, Balacescu[25] says: "The method of ligaturing the thyroid arteries has been the first to be abandoned (among operations attacking the thyroid gland), because in nearly all cases the disease recurred in a few months after operation. Secondly, the execution of this operation was difficult where the thyroid was very large, especially in cases in which its relations to surrounding tissues were altered; or it predisposed to secondary hemorrhages on account of the fragility of the vessels." Kocher, Kopp and Rehn have recorded cases in which this operation was followed by tetany.

3. *Exothyropexy,* which was first done by Poncet and Jaboulay, consists in exposing the thyroid gland, and suturing it in the wound, where it is left exposed, in the hope that atrophy will occur. This operation has been abandoned by Poncet, because of the high mortality (23 per cent.) and the frequent recurrence of Basedow's disease after this procedure.

*Simple Section of the Sympathetic Nerve.*—Jaboulay[26] performed bilateral section in 6 cases and the unilateral operation in 2 cases. He records 2 cures, 5 improved cases and 1 death, which occurred 18 months after operation—a mortality of 12.5 per cent. In all of these patients the exophthalmos was influenced favorably after the first day; the thyroid enlargement disappeared slowly, while the tachycardia was scarcely influenced by the operation. He proposes that in cases in which the tachycardia is pronounced the inferior cervical ganglion shall be excised. Balacescu[27] claims that simple section influences the exophthalmos and thyroid enlargement but little, and the tachycardia not at all. Pean[28] pronounces the operation resultless and unnecessary. He advocates thyroidectomy. Gayet[29] has stated that simple section powerfully influences the triad of symptoms, and this effect is permanent. It must be remembered that Gayet's article appeared in 1896, while that of Balacescu was published in 1902.

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[13] Kocher: Sixty-fourth Annual Meeting of the British Medical Association, Aug. 6, 1898.

[14] Edmunds: Lancet, May 25, 1895

[15] Booth: Medical Record, Aug 13, 1898.

[16] Rehn. Munchener medizinische Wochenschrift, Oct. 10, 1899.

[17] Tricomini: Il Policlinico, Roma, 1896

[18] Sorgo: Centralblatt für Grenzgeb. der Medicin, No. 1, p. 329.

[19] Jonnesco: Revue Chirurgicale. November, 1897, supplement.

[20] Kocher: Mittheilungen aus dem Grenzgebieten der Medicin und Chirurgie, 1902

[21] Rehn: Münchener medizinische Wochenschrift, Oct. 10, 1899.

[22] Surrel: Des accidents qui peuvent compliquer l'intervention chirurgicale dans le goitre exophtalmique, Thesè de Paris, 1897.

[23] De Cyon: Acad. des Sciences. 1897, Juin.

[24] Rehn: Munchener medizinische Wochenschrift, Oct. 10, 1899.

[25] Balacescu. Archiv fur klinische Chirurgie, vol. lxvii, 1902.

[26] Jaboulay: Chirurgie du Grand Sympathetique et du Corps Thyroide. p. 79. 1900.

[27] Balacescu: Archiv fur klinische Chirurgie, vol. lxvii, 1902.

[28] Pean: Bull. Acad. de Med. Tome iii, p. 31, 1897.

[29] Gayet: Lyon Médicale, No. 30, 1896.

5. *Stretching of the Cervical Sympathetic.*—In the only (Jaboulay's) case in which this operation was performed the tachycardia was markedly increased, the pulse ranging from 110 to 130 two weeks after the operation. The exophthalmos and thyroid enlargement were uninfluenced.

6. *Stretching of the pneumogastric nerve* has been tried by Jaboulay[30] in cases of exophthalmic goiter with severe cough. It is said to arrest the laryngeal spasms. This procedure must be regarded as dangerous and without curative value.

7. *Ablation of the cervical sympathetic* has been abandoned.

8. *Partial Resection* (Removal of the Superior Ganglion) *and Partial and Extensive Resection* (Removal of the Superior and Middle Ganglia with the Intervening Strand).—These procedures have gained an established position among exophthalmic goiter operations. Balacesu[31] reports 27 cases which were treated by partial resection, and were observed for periods varying from 1 to 4 years. In all of these cases there was rapid and pronounced improvement. The exophthalmos disappeared within the first few days, the thyroid diminished in the first 8 days, but the tachycardia persisted, the pulse ranging from 110 to 120. The palpitation did not return, and the facial expression was much changed for the better. After a time, the tachycardia showed a tendency to decrease, but never was as pronouncedly influenced as were the other Basedow symptoms. In this series of 27 cases there were 9 cures, 11 improvements, 2 uncured cases and 5 deaths, none of which could be attributed to the operation. The mortality of these procedures is small, probably less than 5 per cent. Sudden death, however, has occurred after partial resection. One such case, which was operated bilaterally by Bernays and Simpson[32] of St. Louis, died of heart failure on the 11th day. That partial resection is not always curative is shown by a case recorded by Chauffard and Quénu,[33] who removed the superior ganglia without influencing the exophthalmos and goiter. It seems reasonable to concede (1) that partial resection is the operation of choice in those cases of exophthalmic goiter in which the ocular and thyroid are more prominent than the cardiac symptoms; (2) that the bilateral resection should be made, but not at the same sitting, an interval of 2 or 3 weeks being advisable; (3) that the mortality is low.

9. *Total bilateral resection* is the procedure of choice among the sympathetic operations. Of 19 cases which are reported by Balacescu[34] as occurring in the practice of Jonnesco, Soulié, Faure, Peugnecz and Dépage,[35] in 14, after the second day after operation, the Basedow symptoms disappeared one after another. This improvement continued daily until cure was complete. This report is verified by the experience of Halstead[36] and Witherspoon.[37] Halstead, writing four weeks after total bilateral resection, says: "The patient's exophthalmos has greatly improved; the pulse is better, the tremor and general nervous condition are improved." Witherspoon, in 1899, was consulted by a woman aged 59 years, who showed moderate exophthalmos, marked enlargement of the right thyroid lobe, and a pulse rate varying from 130 to 150. She heard strange noises and had ideas of persecution; the skin was moist, and the urine showed casts and albumin. The diagnosis was chronic interstitial nephritis, associated with Graves' disease. Believing that in her general condition thyroidectomy was contraindicated, Witherspoon advised sympatheticectomy. On September 10 the operation was made on the right side. Eleven days later the left side was operated on. After the second operation the pulse showed improvement in quality and rate, the exophthalmos and enlargement of the thyroid almost completely disappeared, and her mental condition improved. In December she went on a visit to the country. In the following February, while riding, she became chilled and died two hours afterward. Up to the present time no deaths have been directly attributed to the total excision of the cervical sympathetic. The results are 63.8 per cent. of cures; 18.1 per cent. of improvements; 18.1 per cent. of failures, and no deaths.

10. *Thyroidectomy with partial resection of the cervical sympathetic* was performed on a patient of Dr. F. Robert Boyd by Dr. J. W. Smith and myself. The patient nearly died on the table from hemorrhage following the slipping of a ligature. She expired suddenly on the third day. The temperature rose suddenly and the pulse became too frequent to be counted.

The failure of thyroidectomy to relieve the exophthalmos of Basedow's disease was remarked on by Stevenson and Shears.[38] In the case of a woman, aged 25 years, from whom the right lobe of the thyroid had been removed 4 years previously, while the general symptoms were improved greatly, the exophthalmos had steadily increased. It is possible that cases presenting marked exophthalmos and thyroid enlargement without much tachycardia may be cured by thyroidectomy, combined with resection of the superior cervical ganglion.

### CONCLUSIONS.

1. Excision of the superior cervical ganglion of the sympathetic nerve is worthy of a trial in those cases of simple atrophy of the optic nerve which resist measures less heroic.

2. It is yet impossible to say whether the bilateral operation is advisable in unilateral optic-nerve atrophy.

3. The value of sympatheticectomy in congenital hydrophthalmos has not been demonstrated.

4. In exophthalmic goiter, complete excision of the cervical sympathetic is followed by a larger percentage of cures than is any other procedure. Thus far no deaths have been recorded. The number of operations, however, is small and final conclusions can be announced only after a large number of cases shall have been treated by this method.

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[30] Jaboulay: Lyon Médicale, April, 1898.

[31] Balacescu: Archiv fur klinische Chirurgie, vol. lxvii, 1902.

[32] Bernays and Simpson: Personal communication, April 15, 1903.

[33] Chauffard et Quénu: Presse Médicale, July 3, 1897.

[34] Balacescu: Archiv für klinische Chirurgie, 1902.

[35] Dépage: Societe Royale des Sciences Médicales et Naturelles Bruxelles. 1898.

[36] Halstead: Personal communication, April 14, 1903.

[37] Witherspoon: Personal communication, April 15, 1903.

[38] British Medical Journal, Jan. 25, 1902.

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**International Anti-Rat Society.**—Some years ago an international association was founded "to disseminate an idea as to the ravages caused by rats." An international exhibition of apparatus for the extermination of rats was held at Copenhagen in 1901, but at that time the rat did not have the same interest from a medical point of view that he now possesses. The permanent secretary is Prof. Peter Oesterby, 16 H. C. Orstedvej, Copenhagen, Denmark. A bounty of a penny per rat has been found to accomplish wonders in Denmark and in England. In London alone over 180,000 rats have been killed on the wharves.

# PATHOLOGY OF THE CERVICAL SYMPATHETIC.[*]

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The departure from the normal in the cervical sympathetic may be classed under two heads, namely, irritation and paralysis.

1. The symptoms of irritation are: (a) mydriasis, due to spasm of the dilator pupillæ; (b) exophthalmus, said to be due to contraction of the smooth muscular fibers of the orbit (Müller's); (c) widening of the palpebral fissure by tonic contraction of Müller's muscle; (d) contraction of the walls of the vessels of the head, face and neck, including pallor of the skin, frequently with an increase in the amount of perspiration; (e) acceleration of the heart beat.

According to Nicati,[1] paralysis of the cervical sympathetic may be divided into two stages:

*First Stage.*—(a) Contraction of the pupil, (b) narrowing of the palpebral fissure (ptosis), (c) decrease of the tension of the globe, (d) increased lachrymation, (e) injection of the ocular conjunctiva, and, in many cases, (f) slight exophthalmus. There is also congestion of the corresponding side of the face, anidrosis in the greater number of cases, sometimes hyperidrosis; also acceleration of the heart action in a minority of the cases.

*Second Stage.*—The ptosis remains. The miosis persists for some months. The miosis, consequent on removing the stellate ganglion in animals, is recovered from in two to three months.[2] The tension of the eyeball becomes normal after some weeks or months, gradually becoming less pronounced. What may be termed the vasomotor disturbances disappear in a relatively short time. In exceptional cases, atrophy of the tissues of the corresponding side of the face follows.

Cases of irritation of the cervical sympathetic are not common. They have been observed as being due to abscess in the neck;[3] pressure of tumors, as malignant growths, cystic goiter,[4] with exophthalmus; thoracic aneurism;[5] injuries to the neck;[6] injuries to the spinal cord, between the fifth cervical and third dorsal vertebræ.[7]

Irritation symptoms may pass over to symptoms of paralysis and again return to those of irritation, due to irregular pressure. Cystic growths are most apt to produce these phenomena. In consulting the literature on affections of the cervical sympathetic, the writer has studied the reported cases of irritation of this portion of the sympathetic nervous system for the purpose of ascertaining if any of the patients suffered from glaucoma. Quite a full list of the reported cases of this nature is given by Lloyd.[8] In none of the histories of such cases is mention made of glaucoma as a complication.

Paralysis of the cervical sympathetic may be due to the pressure of tumors, glandular swellings,[9] malignant neoplasms,[10] cicatrices in the neck, aneurism,[11] abscess,[12] wounds of the neck,[13] injuries to the brachial plexus involving the sympathetic, diseases and injuries affecting the spinal cord, spinal caries, various pulmonary affections; paralysis of the cervical sympathetic also apparently occurs idiopathically.

Tumors originating in the sympathetic and interfering with its function are extremely rare. A case of fibrosarcoma of the cervical sympathetic is reported by Abbe,[14] and he refers to cases reported by Paget, Prudden, Virchow, Satterthwaite and Reynolds of neurofibromata affecting the sympathetic.

Of the symptoms said to be due to abnormal conditions of the cervical sympathetic and the consequent influence on the vessels, migraine may be mentioned. This may be preceded or accompanied by disturbances of vision, (a) periodic hemianopsia, (b) scintillating scotoma, (c) monolateral transient amaurosis, and (d) monolateral photophobia. Accompanying migraine we may also have flushing of one side of the face, anidrosis or hyperidrosis, with narrowing of the palpebral fissures and moderate miosis.

The affections of the eye, supposed to be caused in greater part by abnormal conditions of the cervical sympathetic, are glaucoma and exophthalmic goiter. It is not the province of this article to enter into a discussion of the relation of the cervical sympathetic to these diseases further than to inquire into the changes, if any, that have been observed in the tissues of the cervical sympathetic occurring in individuals affected by these diseases.

## THE GANGLIA OF THE CERVICAL SYMPATHETIC.

The ganglia are surrounded by a thin, firm, adherent covering of connective tissue which sends prolongations into the ganglia, dividing them into compartments of various sizes and serving as a supporting structure. A delicate capsule, composed of a single layer of cells bearing nuclei, surrounds each ganglion cell. The ganglion cells have an average diameter of 20 microns, but vary from 13 to 40 microns. The ganglion cells possess one to three processes, one of which is an axon. The cells are made up of a protoplasmic body containing a nucleus and nucleolus. Many of the cells contain a greater or less number of pigment granules. The ganglia contain numerous nerve fibers, only a few of which are medullated. The blood vessels are small and not numerous.

The nerve-trunk resembles the ganglia, except that it contains no ganglion cells, and apparently contains a greater proportion of medullated nerve-fibers.

## PATHOLOGIC CHANGES.

The writer has little doubt that the ganglia of the cervical sympathetic in the aged undergo degenerative changes to some degree. It is certain that these ganglia as examined in the dead-house vary much in size and appearance.

Hale White found in examining 33 semilunar ganglia, taken from persons dying from different causes, that most of them showed degenerative changes (Onuf and Collins).

Gustav Ricke[15] reports a case presenting symptoms of irritation of the cervical sympathetic. Autopsy showed round-cell infiltration and small hemorrhages in the superior cervical ganglion of the affected side. He thinks that paralysis of the vasomotor fibers and irritation of the oculopupillary fibers occurred.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

[1] Nicati, La paralysie du nerf sympathetique cervical, Lausanne, 1873.

[2] Onuf and Collins, Arch. of Neur. and Psych., vol. iii, Nos. 1 and 2.

[3] Althaus, Med. Chir. Trans., vol. xli, p. 398.

[4] Demere, Wurtzburger med. Zeitschr., 1862, bd. iii, S. 262.

[5] Flint, "*Clinical Medicine*"; Walshe, "Diseases of the Heart."

[6] Seeligmuller, Arch. f. Psych., bd. v., S. 835.

[7] Rosenthal, "Diseases of the Nervous System," p. 216.

[8] "Twentieth Century Practice of Medicine," vol. xi., p. 457.

[9] Fränkel, Berl. klin. Woch., 1875, No. 3.

[10] Verneuil, Gaz. des hôpitaux, April 1, 1864.

[11] Gairdner, Edinburgh Med. Jour., *1855, p. 143.*

[12] Jewell, Chi. Jour. of Mental Dis., 1874, p. 15.

[13] Weir Mitchell, "Gunshot Wounds and Other Injuries of Nerves," Phila., 1864.

[14] Annals of Surgery, April, 1898.

[15] Wiener med. Presse, 1884, p. 1077.

Petrow[16] describes changes occurring in the sympathetic in constitutional syphilis. In twelve cases which he examined he found distinct alterations in the nerve elements and in the interstitial connective tissue, hyperplasia of the latter being apparent. There was pigment and colloid degeneration in the nerve-cells, alterations in the cells of the sheaths of the ganglion cells consisting of increase in size and proliferation. The endothelial cells showed secondary fatty degeneration.

Pio Foa (*Sull' anatomia del gran simpatico*) wrote concerning some changes he had observed in the sympathetic in various diseases. These were found chiefly in the cervical and abdominal ganglia, and consisted sometimes of simple or fibrous atrophy, at other times of hyperemia, sclerosis, pigmentary and fatty infiltration, amyloid degeneration, accumulation of colorless blood-corpuscles and the presence of micrococci in the blood vessels of the ganglia. These alterations are well marked in syphilis, leukemia, pellagra, tuberculosis and infectious diseases.

Mention should be made of two reports by Koster[17] on the state of the cervical sympathetic in persons who had died suddenly from sunstroke. In one case, that of a soldier, the superior ganglion of the right sympathetic was twice the size of the left and was the seat of hemorrhagic effusion; microscopically, the nerve-fibers were seen to be separated and disintegrated. There were small hemorrhages in the upper part of the right sympathetic, while slight effusions of blood were found in and around both vagi and in the sheaths of both phrenic nerves. In the second case, that of a woman 21 years of age, the pathologic phenomena were a hemorrhagic infiltration and enlargement of both superior ganglia of the cervical sympathetic, while the microscope revealed the same appearances as in the other case: there were also ecchymoses as large as peas in both vagi. In the first case, the patient had lived twenty-four hours, having a pulse so rapid that its beats could scarcely be counted; there was, however, no acceleration of the respiration.

### GLAUCOMA.

The ganglia excised in Ball's cases were examined by Dr. Carl Fisch[18] of St. Louis. A great number of different staining methods were employed, but those of Golgi, Marchi and Nissl were not employed, on account of the method of hardening the specimen. The changes found were approximately the same in all cases.

The most striking change was "a very marked hyperplasia of the connective tissue, which, in some places, resulted in dividing up the ganglion into small groups of nervous elements, separated by broad bands of fibrous elements." There was decided sclerosis of the walls of the vessels and the capsules of the ganglion cells were "much increased in thickness." "In Case 1, small foci of round-cell infiltration are seen in this hyperplastic growth of an inflammatory character." No "plasma or mast-cells" could be demonstrated.

The ganglion cells were "immensely" pigmented; many were in various stages of degeneration. Only a few showed normal dendritiform processes. The network of processes was reduced in volume and compressed by the connective tissue new formation. The general aspect was that of a general sclerosis, inflammatory and originating in the walls of the vascular structures. The changes in the nervous elements are attributed to pressure and inhibited nutrition.

Ziehe and Axenfeld (*Sympathicus-Resection beim Glaucoma,* Halle, 1901) report the examination of five ganglia removed from three patients at Rostock. The ganglia were examined by Dr. Recker, Privatdocent, working in the Pathologic Institute at Rostock.

Case 1.—Capsule thick; the connective tissue that accompanied the blood vessels was also thickened. Connective tissue poor in nuclei. Often the adventitia was thicker than the remaining portion of the wall of the vessel, plus the lumen of the vessel. A slight increase in the small cells was observed in the vicinity of the vessels. No change in nerve elements. Both ganglia presented the same microscopic appearance.

Case 2.—Right ganglion; marked diffuse interstitial sclerosis, most pronounced in the vicinity of the larger blood vessels. Nerve elements normal. The left ganglion showed the same changes, but to a less degree. Leucocytes slightly increased in number.

Case 3.—The left ganglion, which was the only one removed, showed increase of the connective tissue about the blood vessels; adventitia very much thickened. Diffuse interstitial sclerosis absent.

Lodato[19] examined two ganglia removed from a patient with glaucoma and found hyperplasia and sclerosis of the connective tissue and a peripheral small-cell infiltration. The sclerosis was more marked in the ganglion from the older patient, the small-cell infiltration in the ganglion from the younger patient.

In the first he found a number of small hemorrhages which had destroyed some of the nervous elements. There was some degeneration of a few of the medullated nerve-fibers. No change in the nerve-elements in the second case.

Lodato questions whether the small-cell infiltration might not have produced an irritation which could have caused a hypersecretion of fluids into the globe, and thus have established the first stage of the glaucoma. There is no report of control examinations.

Albertotti[20] gives an example of ten superior cervical sympathetic ganglia, the cut being reproduced from a photograph, which shows them to be of various sizes and shapes.

Cutler[21] reports, regarding the microscopic examination of one superior cervical ganglion removed from a patient suffering from glaucoma simplex, as follows:

> Specimen 5 centimeters long, ½ centimeter in diameter. At one point for 1½ centimeters is a thickening. Sections through whole length of specimen show large ganglion cells In these cells the chromophilic bodies do not show the normal size and arrangement, and many cells show small granules of pigment. A growth of connective tissue is between the ganglion cells. Nerve fibers are normal.

When we take into consideration the fact that degenerative changes in the cervical sympathetic occur in the old, whether there is marked evidence of disease or not, it becomes apparent that it is necessary to make control examinations before we can reach any reliable definite conclusion regarding the condition of the cervical sympathetic in individuals suffering from glaucoma, or, in fact, in any disease supposed to be due to pathologic changes in the cervical sympathetic. Such control experiments were made by Dr. Ira Van Giesen, in connection with the examination of the ganglia removed, in the cases reported by the writer.[22] His report follows:

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[16] Virchow's Arch., 1873, bd. lvii, p. 121.
[17] Berliner klin. Woch., 1875, No. 34.
[18] Ninth Internat. Ophthal. Congress, Utrecht, 1899, p. 554.
[19] Arch. di ottalm., vol. viii, p. 358.
[20] Ann. di ottalm., Naples, xxix, p. 472.
[21] Annals of Surgery, Phila., September, 1902.
[22] Trans. Amer. Ophth. Soc., 1902, p. 455.

Seven ganglia have been examined microscopically, including two bilateral operations, comprising thus five different cases. The work has been paralleled by the examination of control ganglia taken from subjects as near as possible the same age as the operation cases. As the control studies are very important in an examination of this kind, the normal ganglia were subjected to precisely the same steps as in the operation cases, and carried along with them side by side. Four ganglia of normal subjects were studied as controls and secured in autopsies averaging about twenty-four hours after death. (Thus far, however, but two of the control ganglia have been complete for study.)

We have endeavored to bring to bear on the question as comprehensive an examination as possible, and the technic has been directed toward all of the structures of the ganglion in the following order: (1) The detection of any cytologic changes in the neuron cell bodies. (2) A special study of the so-called pigment granules in the neuron cell bodies. (3) An examination of the connective tissue framework of the ganglion. (4) A study of the blood vessels; and (5) the examination of the medullated and non-medullated fibers.

Special methods, both of fixation and staining, have been used for each of these points in both sets of ganglia—the operation cases and the control cases—and in all some three hundred sections have been examined. Ten different fixations have been employed, as well as the several varieties of staining methods best adapted for the demonstration of each of the objects of examination.

1. *The Neuron Cell Bodies.*—Throughout the series of operated cases, the neuron cell bodies show the normal arrangement and distribution of the chromophilic granules. There are no evidences of degeneration, nor is there any atrophy or signs of disappearance of the neuron cell bodies. In a very few places, in fact, of quite exceptional occurrence, there are appearances which might be considered as similar to the form of chromatolysis in the centers of the neuron cell bodies seen in the central nervous system. This, however, is also seen in the control cases, and it seems to be of no significance in relation to the production of the glaucoma.

2. *The Pigment Granules.*—The capsules of the ganglion cells are also without alteration. The pigment grains are certainly increased in the glaucoma cases as compared with the control cases. A larger number of cells contain pigment grains in the glaucoma cases, and the aggregate volume of the pigment grains is greater. While the control cases contain a considerable amount of pigment particles, this can be reckoned as being only fifty to sixty per cent. of the quantity in the operation cases.

3. *The Connective Tissue.*—Studied in specimens prepared in Fleming's weak and strong solutions and stained by the picric acid fuschin method, the connective tissue framework shows no signs of proliferation or degeneration in the glaucoma cases. One would not be able to distinguish between the operation cases and the controls, judging by the connective tissue.

4. *The Blood Vessels.*—These were examined with especial attention, both in the substance of the ganglion and in the loose connective tissue surrounding it. The vessels are normal.

5. *The Fibers.*—The medullated fibers in the ganglion are so relatively few as compared with the non-medullated fibers that Weigert's method of staining the medullated sheath leaves the section quite decolorized. There are not enough medullated fibers to take the stain. Under the microscope, however, the bundles of fibers in the ganglion show here and there the darkly-stained medullated fibers among the axons. Compared with the controls there seems to be no differences in the non-medullated fibers.

*Summary.*—We find, then, that as far as our methods of examination of hardened material go the ganglia seem to be normal with the exception of an excess of pigment in the neuron cell bodies, and as to the significance of this, if it has any, we are entirely as yet in the dark. The result of the examination does not positively preclude the existence of a lesion in the ganglia. (The ganglia were examined at the new pathologic laboratory of the Women's Infirmary of New York.)

Dr. W. H. Wilder of Chicago has kindly permitted me to refer to the microscopic findings in the ganglia removed from patients with glaucoma in his service. The examinations were made by Dr. Sidney Kuh, who reports as follows: Excess of pigment in the ganglion cells (age a factor?); cells not round, often appear shrunken; eccentric nuclei, occasionally only the nucleolus visible; cells at times vacuolated; mast cells; vascularity. All of these findings were present in each case except the second finding (that of the cells not being round), as in some of the specimens the cells were perfectly round.

Onuf and Collins[23] write:

> Concerning the morbid findings in cases of Graves' disease, Moebius has recently written: "All sorts of conditions have been described; the ganglia are too large or too small; the nerve too thick or too thin; there is too much connective tissue or too few nerve cells; the nerve cells are deformed, shrunken, or pigmented; there are small hemorrhages, destruction of nerve fibers, etc., etc. To all of which we make an affirmative, choosing to disregard the writer's attempt at irony. We have learned in recent years that in individuals dying of long-standing nervous disease, the so-called functional as well as organic, there are also invariably, especially if the individual be somewhat advanced in years, retrogressive changes in the nervous system. Although Moebius comes to the conclusion that in the majority of cases of Graves' disease nothing characteristic or essential is to be found in the cervical sympathetic to explain the pathogenesis of the disease, it does not seem to us that investigation of the vegetative system of nerves in its peripheral and central distribution has been sufficiently comprehensive to give tenability to his position."

The following report is from the examination of nine ganglia removed from patients suffering from exophthalmic goiter. Five of these patients were in the practice of Dr. B. Farquhar Curtis, who has kindly permitted me to make use of the report. The examinations were made by Dr. F. C. Wood, pathologist to St. Luke's Hospital, to whom I am indebted. I wish to express my thanks to both these gentlemen for their courtesy. This report is of practical value because of the control examinations, which were made in connection with the examination of the ganglia removed from patients suffering from exophthalmic goiter.

1. There is no definite increase in the connective tissue of the ganglia.

2. Pigmentation of the ganglion cells is quite constant and abundant, though not present in all cells.

3. A small proportion, always less than half, of the ganglion cells shows a central chromatolysis when stained by Nissl's method. In some cells the change was advanced and no chromophilic bodies could be seen; in others they were clustered about the periphery of the cell. The nuclei were often eccentric in the degenerated cells.

4. No fiber degeneration could be demonstrated. All the ganglia showed about the same changes.

Control ganglia from autopsy cases dying from a variety of diseases did not show marked chromatolysis, though an occasional cell with degeneration could be seen. The amount of pigment formed was variable in these controls. It was more abundant in the aged than in adults, but a certain amount seems to be present in some of the ganglion cells of the sympathetic, at least in cases which I have been able to examine.

Reports of changes in the cervical sympathetic observed in different pathologic conditions affecting the system locally and generally, make it evident that as yet no change has been found that is peculiar to glaucoma. The findings in the cases of Ball, Ziehe and Axenfeld, Lodato and Cutler, are uniform in regard to the hyperplasia of connective tissue. This was also found by Petrow in cases of constitutional syphilis, and by Pio Foa in patients with various diseases. Slight infiltration of small cells does not appear to be peculiar to glaucoma.

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[23] B. Onuf and Joseph Collins: "Experimental Researches on the Cervical Sympathetic," etc., Archives of Neurology and Psychopathology, vol. iii, Nos. 1 and 2, p. 217.

Changes in the nervous elements are reported by Ball, by Cutler and by Kuh. These were not observed by Ziehe and Axenfeld, nor by Lodato, except in the presence of pigment granules. Changes in the ganglion cells were observed by Petrow in individuals suffering from constitutional syphilis. The validity of the statements regarding the uniform increase of connective tissue is somewhat shaken by the results of Van Giesen's examinations, as no such increase could be demonstrated in the seven ganglia which he examined. Kuh also fails to mention an increase of connective tissue.

The testimony in our possession is not sufficiently conclusive to enable us to say that there is any constant change in the cervical sympathetic peculiar to glaucoma. Nor is it sufficiently conclusive to exclude the possibility of such constant change. Farther and more careful research is necessary; first, probably along the lines suggested by Dr. Van Giesen, viz., by means of the Ehrlich methylene blue method with fresh ganglia or by other equally delicate methods for the purpose of determining the conditions of the processes of the neurons and the cell structure, and, second, a study of the pigmentation of the neurons, which must be made in comparison with control studies.

[The discussion on the papers of Drs. De Schweinitz, Wilder, Ball and Weeks will follow the paper of Dr. Wilder next week.]

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# PATHOLOGY OF INEBRIETY.*

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The pathology of inebriety is the story of a long series of degenerative changes extending over many years, and also the record of brain storms and explosive liberation of nerve energies acting on defective cells and nerve centers. In all instances these changes appear in the walls of the blood vessels, the nerve cells and dentrites. The inebriate whose brain and body after death exhibit a confused mass of wreckage which the pathologist is often unable to trace back to the exact causes and conditions, has always sclerotic conditions of the large and small arteries, together with atrophic and hyperatrophic states of the heart, kidneys and liver with fatty degeneration, and calcification of the coats of the arteries. These organic changes are so frequently present in inebriates that they constitute a marked pathology which is traceable to the use of alcohol.

A large number of alcoholics die from acute diseases, and many of the organic changes found are referred to other causes, hence a distinct pathology is not often recognized. The more modern views of alcoholic degeneration indicate that the first pathologic changes following the use of spirits appear in the walls of the blood vessels, particularly in the vascular and capillary circulation of the brain.

The special action of alcohol on the vasomotor centers, paralyzing and diminishing the caliber of the arteries and capillaries, both obstructs and changes the uniformity of the blood current. This is followed by defective nutrition and accumulation of toxins, also a diminution of the power of elimination. The conclusions of the London Pathological Society, which have been sustained by modern authorities, agree that the first action of alcohol in the body is checking oxidation, diminishing the oxygen-carrying properties of the hemaglobin and retarding the elimination of carbon dioxid. (2) This action is that of a corroding tissue poison by the absorption of water at every point of contact with the cells and tissues. (3) It is a functional poisoning, depressing, checking and changing the natural activities of the organism. The corrugation of the cells and nerves with fibrous and fatty deposits and low states of inflammatory action are the common results. Dr. Andriesen, the pathologist of the West Riding Asylum of England, concludes an exhaustive study of the injuries following the use of alcohol as follows: "There can be no doubt that alcohol taken in the body has a specific influence over the nutrition of the nerve cells, impoverishing and starving them, cutting off and diverting the dynamic forces followed by a shrinking and atrophy of both cell and nerve." Dr. Berkeley of Johns Hopkins Hospital has added to these some new studies of his own, showing that alcohol in the system has a peculiar eroding action on the cells. At first this is confined to local centers, which increases until finally a large part of the brain becomes affected. Dr. Van Gieson of the New York Pathologic Institute in many new researches with new methods of staining describes the altered condition of the blood cells and fibers which exists, and concludes that alcohol first acts as a corroding destructive force on the nutritive cells and centers as well as on nerve tissue. More recently these views, while being confirmed, have led up to other studies showing that the walls of the capillaries are most seriously affected by the irregular and convulsive flow of the blood currents. Alcohol not only produces increased functional activity with its irritation, but is soon followed by diminished force and power extending to states of palsy.

In these conditions the nutrition is disturbed and the irritation may concentrate and appear in certain brain areas, which from unknown causes are more vulnerable than others. There can be no doubt that toxemias of gastro-intestinal origin are very potent factors in producing favorable conditions for the increased corroding action of alcohol. Heredity, syphilis and many other causes often leave brain centers defective and on the borders of acute organic degeneration. The use of alcohol by paralyzing the vasomotor functions controling the contraction and dilatation of the walls of the blood vessels favors the beginning of organic changes in the capillaries and arteries which extend to the nerve cells.

The power of contraction and dilatation so prominent in the heart extends to the minutest blood vessels, and resembles a chain of local hearts controlling the blood pressure and regulating the rhythmic flow of the current according to the influences of heat and cold, irritation, nutrition and rest. Hence a process of actual differentiation concerning the movements of the blood in the capillaries is going on continuously. This process includes oxidation, nutrition and elimination, and its disturbance and irregularity is registered in the minutest arterioles as well as in the larger vessels.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

Arteriosclerosis, the most common disease found in all inebriates, is degeneration of the structure of the walls of the arteries beginning in the capillaries of the brain and extends back to all the larger vessels in fibrinous deposits. When the blood current is loaded with toxins and defective nutrient plasma it moves in an irregular impulsive manner, hence the nutrition of the parts to which the blood circulates and the uniform flow of the current is disturbed. There is diminished oxidation, defective control and elimination. The red congested appearance of the face in persons who use spirits shows this condition. The dilatation of the capillaries is not due to the increased activity of the vasodilator nerves, but to a paralysis of the vasoconstrictors. This nerve action becomes intermittent, then increases to a degree of partial paralysis. The nutrition of the artery is affected and fatty degeneration follows with calcification of the middle coats of the artery, and increasing formation of fibrocellular tissue. The supply of nutrient plasma is diminished and the channels for obtaining this supply are modified and disturbed. Dr. Woodhead says: "I have been able to demonstrate that the walls of the blood vessels are the first to suffer organic change from the action of alcohol. Such changes occur first by a thickening of the inner coat followed by proliferation of the endothelial cells, then a thickening of the intima and adventitia, also wasting of the muscular fibers. This cellular increase is a veritable connected tissue group of degeneration. First it is proliferation of the endothelial and connective tissue cells around the connective tissue spaces, and secondly it is an accumulation of waste products. In some instances this may go on slowly, in others rapidly. Sometimes it attacks the liver; always the parenchymatous tissue, and in others the kidneys. In all cases these changes are seen in the capillaries of the brain. In the chronic form the muscular coats of the walls of the vessels disappear and the fibrous tissue is increased. The liver cells become atrophied, and fatty infiltration and degeneration follow. This formation of fibrous tissue is uniform, particularly in the heart, kidney, liver and blood vessels, also in the sheaths of the nerves. The lymphatics are also affected." The increased action on the heart interferes with the nutrition of that organ. The coronary artery is diminished in caliber and capacity to transmit the blood current, hence the increased heart's activity is followed by increased exhaustion. In all cases of inebriates the heart is either atrophic or hypertrophic, and both the quality and quantity of blood needed to supply its nutrition and carry away the waste is interfered with. The result is dilatation, deposits of fatty cells in the place of muscular fiber. Both the liver and kidneys suffer in the same way from increased work with impaired circulation and faulty nutrition. In the arterioles and capillaries the same disturbance follows, and the walls of the arteries are thickened or thinned. The postmortems of inebriates frequently show small ruptures and occlusions where certain areas which were cut off have been supplied by a collateral circulation. The result of these organic changes is anemia and exhaustion with increased use of spirits. Every intoxication from alcohol is a paralysis of the walls of the blood vessels and diminution of the nutrient plasma by interfering with its quality and absorption. This paralysis is in all cases either general or local.

In its general action profound stupor and coma follow, and in its local action excitement, delirium and delusions mark the character of the disturbance. This palsy is often due to the direct action of toxins in the blood both formed within and without the body, acting as irritants on localized centers. A number of authorities have shown that these poisons affecting protoplasm cells and dentrites are followed by great changes, sometimes by swelling and always contraction of the dentrites with tumefactions and fibrous growths. Bevan Lewis describes this condition as due to the swelling and subsequent contraction of the dentrites and the atrophy and shrinking of the cell walls. The serum infiltrations commonly found in the brain of alcoholics, together with the fibrous arteries, sclerosis of the nerves and capillaries and sclerotic state of the liver and kidneys all indicate a distinct pathology of inebriety. Why one organ should be more seriously affected than another is not yet clear. Why the heart should become enormously atrophied and the liver and kidneys remain normal in size and not seem particularly affected only in their functional activities and *vice versa* must be answered in the future. Outside of the gross appearance registered in the artery walls and the organic changes there are pathologic indications of psychic palsy which is common, although not studied. It is not known whether these alterations in character, consciousness and the higher psychic senses precede or follow the organic changes in the blood vessels and blood circulation.

In some instances they are traceable to defects of nutrition; in others to stress and strain following the sudden accumulation and liberation of nerve energy, also the association and disassociation of sensory activities. The general uniform paralysis of the senses following the use of small quantities of alcohol open up a new field for psychologic study. Kraepelin's studies have shown that the sight, hearing, touch, taste and smell, also the muscular power, are diminished and seriously disturbed by the use of a single ounce of ethylic spirits. This can be measured with instruments of precision.

In the laboratory the personal equation of the person experimented on is ascertained, then measurements of the senses after the use of spirits bring out this fact. In the more chronic cases these states of palsy are very apparent. The muscular paralysis is also very clearly defined, particularly on the heart and motor control. These measurements extend to time reaction, thought rapidity, memory, reason, judgment, and all the higher mental operations, and in all cases show that the action of alcohol on the higher brain is that of a depressant, anesthetic and paralyzant. This new field of psychopathology brings out some startling facts and explains in many ways the apparent diversity of symptoms of the action of alcohol on the brain centers. Why alcohol taken continuously in small quantities or at intervals to excess should so uniformly act on the higher brain or that part termed character, consciousness and ability to determine the quality of acts and duty, has been explained as the degeneration and disintegration of the last-formed and highest growth of the brain. Illustrated examples are very numerous of this fact and many explanations have pointed out states of fatigue, exhaustion and nerve instability which register themselves on these higher nerve functions in advance. Numerous experiments on the lower animals to determine the effect of alcohol have shown changes of cell and tissue with fibrous deposits and local inflammations clearly due to the toxic action of alcohol. The older pathologists whose experience was gained from the cadaver pointed out the uniformity of fibrinous deposits, serum infiltrations and calcification of the arteries with foci of old hemorrhages. The modern pathologists show the occluded capillaries of the brain, the thinned and thickened walls of the arterioles and the deranged vascular circulation with evidences of local inflammatory action, also from the new method of staining the cell degeneration and sclerosis of nerve fibers. The psychopathologist with instruments of precision shows the functional palsy of both the senses and the psychical functions of the brain. The chemicopathologist points out the complexity of alcohol, depending largely on the substance from which it is made and its special peculiar action on cell and tissue, producing new toxins with new effects and localizing them in certain sections according to unknown favoring causes. The anesthesias so marvelous in their effects due to the ethers of alcohol are of the same class and their effects are equally pathologic. These are all intimations of a new field for the exact study of the action of alcohol on the body which awaits farther and more exact studies. Some of the conclusions which I wish to make prominent are as follows:

(1) In all cases of inebriety there are marked changes in the capillary and vascular system of the brain. The walls of the vessels show fibrinous deposits and sclerosis. The nerve cells and dentrites are altered and retracted, in some cases permanently destroyed; in all inebriates shrunken and disintegrated states exist.

(2) The liver, kidneys and heart show diminution or enlargement with fibrous and fatty deposits. Both the organic and functional activity of the organ are changed and sclerotic states are present. Conditions of starvation and poisoning exist in all cases.

(3) Pathologic changes are apparent in the paralysis of the sense organs and the higher psychic functions of the brain. These conditions are so common following the use of alcohol, sometimes in its moderate use, but always when taken in excess, as to constitute a pathology that is traced directly to alcohol as the most prominent cause.

(4) The recent researches into the chemicophysiologic action of alcohol on the heart, blood vessels, cells and nerve fibers show a paralyzing and eroding action that can not be mistaken for any other cause.

The final conclusion is that the peculiar brain and nerve wreckage so commonly seen in persons using alcohol is due to the specific cause, alcohol following a uniform line of degeneration which is traceable with more or less exactness.

### DISCUSSION.

Dr. Albert E. Sterne, Indianapolis—I would take exception to the statement made by Dr. Crothers that the parenchymatous changes in the liver are primary. I would ask him whether such changes are not always secondary to an inflammatory process.

Dr. T. D. Crothers, Hartford, Conn.—Both primary and secondary. It may be either one or the other, according to the individual. There is no uniformity.

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**Secret Remedies.**—Why can not physicians write their own prescriptions and adapt their remedies to the ever-varying exigencies of disease? Why should the vender of proprietary and secret remedies be upheld by so many of the profession, when Edward Jenner, after twenty-two years of laborious experimentation and research, freely gave the priceless boon attained to mankind, and when he could have made countless billions of money from the whole world by dispensing it as a secret and sovereign remedy against a loathsome and desolating scourge?—William T. Howard before the Maryland Medical Society.

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## CARCINOMA OF SPINE AND MENINGES SECONDARY TO CANCER OF THE BREAST.*

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AND
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*Ambulance History.*—Susan R. White, aged 70, housework, admitted to Philadelphia Hospital, Feb. 8, 1902. Duration of illness: four months; one month in bed. Symptoms: Pain in chest, pain in back, vomiting and diarrhea, severe pain over precordia and stomach, sharp pains in the leg at one time. She has had a lump in the breast for three years. Bowels and urine are not under her control. Both legs are paralyzed; anesthesia is present up to the waist line.

*Hospital Record.*—(By Dr. Blayney, interne,) Chief complaint: Anesthesia and paralysis of the lower extremities.

*Family History.*—One sister died of inflammation of the lungs (phthisis it is supposed); one sister died of scarlet fever; another of "cold"; one brother died of pneumonia.

*Past Medical History.*—She had the ordinary diseases of childhood, and rheumatism.

*Present Illness.*—Last November she was taken with pain in the hips; after the pains ceased the track of the pain would be very sore. The anesthesia and paralysis came on suddenly. She lost control of feces, then of urine. She lost control of feces before the paralysis came on. She had pains in the shoulder and back, had a creeping sensation in the left side which became better on pressure. She was sleepless for three weeks before entrance to hospital, and had the dry mouth of dyspepsia.

*Physical Examination.*—Emaciated, aged white woman; chest emaciated; heart seems to have a systolic murmur; lungs resonant; liver and spleen apparently normal; pupils seem dilated, haze around edge of cornea; pulse soft, regular; tongue dry, with light-brown coat; extremities atrophied; knee-jerk absent in the left leg, present to a very slight extent in right. Anesthesia exists to waist or slightly below umbilicus. She said she felt a pin stick her on the foot of right leg. She can move toes of right foot very slightly, those of left foot not at all. Plantar reflex is gone. She has incontinence of urine and feces, and has a sore over crest of ilium on the right side, also a sore over the sacrum. She has a nodule in left breast, and looks pale and emaciated.

*February 21.*—Patient does not feel the prick of a pin on either sole of the foot, but does have occasional extension reaction. Knee-jerks are absent. Supra-orbital reflex is present. Pupils respond normally. Patient is very feeble and cachetic. Looseness of bowels exists, probably largely due to relaxation of sphincter ani muscle.

*February 22.*—Patient is becoming more cachectic and growing weaker. There is a great tendency to decubitus where pressure is slightest. Does not feel when sole of foot is touched, but Babinski sign is present.

*February 27.*—There is a great humping of the muscles of lower extremities at site of blister which was present on admission; over right ilium there is a large bed sore. Patient is very weak, and is taking very little nourishment.

*Detailed History.*—(As taken by Dr. F. Savary Pearce.) The patient was always well up to last November (three months before admission), when she complained of pain and weakness in her legs, which came on gradually, and also of pain in her back; there was no history of any injury. She has been confined to bed since. For the last ten days she has suffered from nausea at times; retching and severe diarrhea. She has complained of pain radiating across the chest from one shoulder to the other; also of pain in the lumbar region, which she declares is constant. She has had no control of bowels or bladder for eleven days; she has not been sleeping well.

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*Examination.*—There is paralysis of lower portion of body; legs are flaccid; no sensation to touch, heat or pain from umbilicus down. Knee-jerks are absent on both sides, as are also the Babinski sign and ankle clonus. Pupils are slightly dilated, equal, react to light and accommodation. Tongue is protruded straight; no tremor; slightly coated. She has a hard nodular tumor in the left breast, upper and outer portion, for the last three years. It has not been growing rapidly lately; there is no pain unless she hurts it. She had a bedsore in sacral region on admission. Heart sounds are weak, slight accentuation of second sound; somewhat irregular. Arteries are atheromatous; arcus senilis. There was marked anterior curvature of spine beginning at ninth dorsal and extending to vertebra prominens; considerable tenderness over lowermost portion of curvature, but no true kyphosis or palpable tumor about the spine. Anesthesia posteriorly extends to a horizontal line just below the iliac crests, in front to a horizontal line apparently one-half inch above umbilicus. There is an ulcer in the right lower quadrant of abdomen just internal to anterior superior spine. Patient breathes well by diaphragm. There is a diffuse semicrepitant mass in the epigastric region extending from the umbilicus up three fingers' breadth and shading off in lateral region; it seems to be slightly movable and to move with respiration. The sensation of heat goes below that of sense of touch. She has had considerable pain in the past in the lumbar region. Tapping patellar tendon gives pain in the back. Atrophy of all extremities is symmetrical. There is a slight tendency to extension of toes.

*Diagnosis.*—Compression myelitis or metastatic growth with compression. *Clinical Diagnosis.*—Myelitis.

*March 21.*—Patient had grown very weak, and toward the last refused all nourishment. Pain has been much less marked the last few days. She died this morning.

*Autopsy.*—(Made by Prof. Joseph McFarland.) The woman was greatly emaciated. Pleural sacs contain very little fluid; cavities dry in appearance. Left pleura contains very strong adhesions and can only be separated with difficulty. Right contains only a few adhesions. On both pleuræ the parietal portions were dotted over with small tumors, from the size of a pea to one centimeter in diameter, these being far more numerous in right pleura, there being only two or three in the left side and the right containing eight or ten. On section these were found to contain a semisolid cheesy material. These tumors did not involve the visceral pleuræ.

In left breast, about one and one-half inches to left of nipple, was a hard tumor about two inches in diameter. Skin strongly attached to tumor, but said tumor was freely movable over underlying tissues. On section tumor was found to cut with resistance, having a grating sensation; cut surfaces pale in color and very resistant to touch; skin strongly adherent to growth, being incorporated in its substance. (Saved for microscopic study.) The fourth and fifth ribs (left side) beneath site of tumor were softened, and on pressure a cheesy material would appear on their surfaces. (A portion of fourth rib saved for further study.)

On section of vertebral column and removal of cord there was found in middorsal region a small portion of cord about 0.5 centimeter in length, which was softened in appearance and to the touch. Above and below this portion of the cord for some distance there were strong adhesions; also the vertebræ in this region—four or six in number were softened in their bodies—a probe being readily thrust into them, showing distinct evidence of disease of the bones.

### PATHOLOGIC FINDINGS (BY DR. A. C. BUCKLEY).

The interest, from a pathologic standpoint, centers about the spinal cord and its membranes. On gross examination there is to be seen on the anterior surface of the dura a mass of neoplasm about 5 mm. in thickness, extending from the tenth to the twelfth dorsal segments. The dura itself is considerably thickened. There can be seen clearly defined an ascending degeneration, limited to the postero-median columns, throughout the cervical region, and in the dorsal region as far as the eighth segment. At this level the lesion extends laterally, involving the postero-external columns, from which the gray substance can not be differentiated with the unaided eye. In the lower part of the tenth and the upper part of the eleventh dorsal segments there is an apparent diffuse myelitis. Below this there are distinct lateral lesions (descending degeneration).

*The Neoplasm.*—The pathologic material, consisting of the primary breast tumor, a fragment of the fourth rib and the spinal cord, was prepared as follows: The tumor and the affected rib sections were stained with hematoxylin and eosin; the cord sections treated with hematoxylin-eosin, nigrosin and the Weigert-Pal methods of staining. The sections from the primary growth show it to be of a pronounced scirrhotic type of carcinoma; indeed, in the part of the growth examined the connective tissue far exceeds the epithelium.

Sections made from the affected rib show the cancellated substance of the bone to be entirely replaced by a mass of carcinoma cells, which in many places have a distinctly alveolar arrangement, the epithelium approaching the columnar type. The compact portion of the bone is reduced to a mere shell. Where the bone has been reduced to small osseous islands, there are clusters of epithelial cells within the bone substance.

The neoplasm, in all probability, affected the rib by direct extension, since it occupied a position immediately beneath the primary tumor.

The pathology of the spinal cord closely resembles that of a similar case which I have reported and to the full description of which the reader is referred.[1]

*Cervical Region of the Cord.*—In sections taken at the highest part of this region the changes are pronounced but not widespread. The pia is thickened; the anterior sulcal vessels thickened, though the intima appears normal. The trabeculæ formed by the pial extensions are much stouter than normal, and there is a general interstitial overgrowth in the entire cross-section of the cord. The nerve fibers in the white matter of the postero-median columns are distinctly degenerated, as is shown by the Weigert-Pal method of staining, the nerve fibers being replaced by a neurogliar overgrowth. The nerve roots are normal.

Lower in the cervical region (about the third segment) the amount of degeneration in Goll's column is greater than that in the above sections, and the nerve roots contain an interstitial overgrowth of fibrous tissue and round cells. Specimens stained with nigrosin show the axis cylinders to be intact in the nerve roots. The gray substance shows no distinct changes other than vascular dilatation and a slight round cell infiltration. The central canal is not patulous, being occupied by a mass of small round cells.

*Dorsal Region.*—The lower segments contain the greatest amount of destruction; the tenth, eleventh and twelfth segments. The upper half of the eleventh segment contains very few normal nerve fibers, there being practically a transverse myelitis. The membranes are thickened and the nerve roots degenerated to a greater or less degree, no doubt having been affected by the inflammatory process in the meninges. The muscular tunics of the blood vessels in the nerve roots appear to have undergone a hyaline degeneration, as they stain very faintly. Other vessels, such as the sulcal vessels, in the same sections stain well. On the anterior surface of the dura there is a mass of epithelioid cells, corresponding to the neoplasm mentioned above, which contains elements similar to those in the breast growth and the affected rib. The cells are densly arranged in stout bands of fibrous tissue. In some areas there is a distinct alveolar arrangement.

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[1] Jour. of Nerv. and Mental Dis., April, 1902.

The degenerative process affects chiefly the crossed pyramidal tracts in the lower half of the eleventh and in the twelfth segment. There is a marked vacuolation of the white matter and round cell infiltration. A slight interstitial overgrowth and increased vascularity are the changes in the gray substance in the dorsal part of the cord.

The position of the greatest amount of destruction to the cord substance is in the upper part of the eleventh segment, in which there are comparatively few normal nerve fibers in the entire cross section. There are scattered patches in the lateral and posterior columns, in which the destructive process has progressed very rapidly, as is evidenced by the presence of masses of granular debris instead of the vacuolation and interstitial overgrowth described above.

*Lumbar Region.*—It will be noted that following the transverse myelitis in the eleventh dorsal segment, there was an ascending degeneration; likewise below the level of greatest destruction, there follows, as usual, a descending degeneration. This in the lumbar region is not so marked as in the upper segments. In sections at the lumbar swelling the greatest change occurs in the nerve roots. The blood vessel in the fasicles are dilated and filled with blood. The majority of the nerve roots are the seat of an interstitial overgrowth varying in degrees, and much more marked on one side than on the other.

### CONCLUSIONS.

We submit the following thoughts in concluding the study of this case of secondary carcinoma of spine and meninges, viz., the undoubted metastatic origin of the bony and meningeal growth from the tumor of the breast as shown by the alveolar arrangement of the cancer cells in all situations affected.

Secondly, from the necessarily imperfect clinical history (since the patient was apathetic and in extreme asthenia and cachexia when admitted to the hospital) it would seem that pain of root irritation of girdle type was the most prominent spinal symptom from the first, and was persistent.

Therefore, in the diagnosis of spinal meningeal growths, this case (with another of pedunculated spinal tumor already reported) would go in evidence that pain from the outset is an important sign of such secondary nervous invasion.

### DISCUSSION.

Dr. H. T. Pershing, Denver—I have seen a case of recurrent carcinoma of the left breast followed by symptoms of myelitis involving the dorsal region of the cord and causing complete paraplegia, with loss of control of the bladder and bowels. There was some pain, but less than I expected in such a case.

Dr. F. S. Pearce—I am sorry I can not give a more accurate clinical study of this case, but when the patient was brought to the hospital she was practically unable to describe her symptoms and a thorough examination record was out of the question. In a case which I reported before the Philadelphia Pathological Society there was a primary growth involving the cord, and the patient complained of a considerable amount of persistent pain radiating about the body. The symptom pain may possibly assist us in differentiating between primary myelitis and the secondary form, due to metastases involving the meninges, as in the case I reported in this paper. More accurate diagnostic marks are what we must seek if we are to do these sufferers any good through surgery.

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## REPORT OF TEN CASES OF MORPHINISM.*

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The cases here reported have been selected from among many others which perhaps might be in themselves more interesting; but it has been my aim to select only such as would demonstrate the fact that many of the cases which appear to be the most hopeless will, when properly treated, become good and respectable citizens. A certain percentage of these patients may be restored to perfect health, physically, mentally and morally, and will remain so, regardless of the quantity taken, the length of time used, the manner of administration or the age. Just what that percentage is I do not know. It is with me an utter impossibility to even venture a guess as to who will remain free from the addiction and who will, as soon as the opportunity presents itself, relapse into the former condition. Being unable to distinguish between them, there remains only to do as we would with patients suffering from typhoid fever or pneumonia—treat every case and hope that he will recover and will not relapse. In reporting these cases I will give only a short description and history of each one, and I will not discuss treatment further than that they were treated according to the methods that I have previously described[1] to this section.

Case 1.—Mr. F. F., aged 21, single, occupation painter, was admitted to the U. B. A. Hospital in the fall of 1895. His arms and legs were covered with needle abscesses, and each leg was wrapped in a flax-seed poultice from the ankle to the hip and each arm from the wrist to the shoulder. He was using this pus-covered territory for taking the hypodermics, and consequently made an abscess with nearly every injection. At the time of his admission he was using 60 grains of morphin hypodermically every twenty-four hours, having chills and fever, with a temperature going as high as 105. Thirty or forty abscesses were freely opened, and he had no further trouble with the chills and fever. He had been addicted to the drug for about four years. The morphin was reduced to 1/120 gr. at the end of about 8 weeks, when it was entirely withdrawn. He remained in the hospital six weeks longer, when he was discharged and soon went to work at his trade. He has since married, and is the father of one healthy child. His childhood was not spent in the best of homes nor his youthful days with good associates, nevertheless he is now an industrious man and a good citizen. He appears to be in perfect health and tells me that he never thinks of morphin more than as though he had never used it.

Case 2.—Mrs. M. N. came for treatment in the spring of 1895; aged 30, married, general health good, occupation landlady, had used the drug six years. At the time of admission she was taking by mouth about 15 grs. of morphin per day. Five weeks were occupied withdrawing the morphin, and she remained two weeks afterward. A short time after her return home she was taken with sciatica. Her physician was true to her and did not give her any narcotic, but a friend and neighbor, who was an addict, after offering her morphin several times, finally persuaded her that one dose would do no harm and would give her great comfort. This manner of talk to one in pain and one who was almost persuaded that she was obliged to have the drug was enough, and she was again in the morphin habit. As soon as she was fully recovered from the sciatica she returned for treatment for morphinism. In four weeks she went home free from the addiction, and has remained so since. At the time she left my place she weighed 128 pounds, which was 10 pounds more than she weighed when she came. Her present weight is 206 pounds and she is in perfect health.

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[1] The Journal A. M. A., Nov. 16, 1901, p. 1292.

CASE 3.—Mr. C. P., age 73, farmer, married, came to me in the spring of 1896. Seven years previous to that time he had had an attack of la grippe which had left him with an aggravating cough, and little strength and more or less neuralgic pains. His physician had given him a prescription containing a small amount of morphin. While the prescription was often changed in other ways, the opiate was continued in increasing quantities for seven years. During this time his health was very bad, being confined to the bed for fully one-half of the time and the remainder of the time unable to get out of the house except for short rides. Finally, in the fall of 1895 he went to California in the hope that the climate would help to restore his health. He had never up to this time suspected that he was addicted to morphin. He had taken enough medicine with him to last three weeks, and when that was gone he became very sick and was obliged to call a physician, who soon found that four grains of morphin would make the patient very comfortable and strong enough to get up and be around. After becoming convinced that he was a morphinist, he came back east and placed himself under my care. I withdrew the morphin very gradually and discharged him cured at the end of fourteen weeks. He improved rapidly, and in six months he was as well as most men of his age, and kept well until this spring, when he died of apoplexy.

CASE 4.—Mr. C., age 63, had contracted the habit through constant and long-continued use of a patent medicine that he was taking for some real or imaginary nervous trouble. When his physician found that he was drinking two or three bottles of this nostrum every day he soon discovered that he was addicted to the use of about four grains of morphin in twenty-four hours. His physician told me that for weeks he had been walking the house and moaning in a nervous and despondent manner which was pitiable to see. This despondent condition was probably caused both by taking the overdose of the drugs contained in the nostrum, aside from the opiates, and also by not getting enough of the morphin to satisfy the requirements of the habit. He came for treatment in May, 1897. I made no effort to reduce his dose for three or four weeks until he was in a better condition, when I reduced it very slowly, and discharged him at the end of eighteen weeks. He has since remained free from the addiction and has enjoyed very good health.

CASE 5.—Mr. B. came for treatment Jan. 20, 1898; single, aged 32, occupation gambler, very much emaciated, had used morphin twelve years. Was taking at the time he came for treatment 40 grains of morphin hypodermically, and drinking two quarts of whisky every twenty-four hours. His condition was apparently alarming. He had no appetite, could take no solid food and the stomach rejected most of the liquid food that we persuaded him to take. I very much feared that he would have delirium tremens, but he did not. I gave him whisky in reduced doses for ten days, then withdrew it. I gradually reduced the morphin until the first day of May, when he was taking only 1/240 of a grain at a dose, then discontinued it. At this time he had gained 35 pounds. He remained with me for four weeks longer and went away in excellent condition. It is now over five years since he was treated, and I have seen him in the past few days and he is the picture of health. He tells me that he never thinks of either the liquor or the morphin with the least degree of temptation. This seemed to me to be one of the most hopeless cases that I had ever treated.

CASE 6.—Mr. H. came for treatment Dec. 22, 1898; age 51, had taken cocain for eight years and morphin for many years longer. He never would tell me how long he had used morphin. At this date he was taking three grains of cocain and ten grains of morphin per day, but this was a reduction. He had taken much larger quantities. For two months before coming to me the patient was treated by an Eddyite. How much that had to do with reduction of his dose I do not know, but after he left my institution the Eddyite claimed that she had cured him of the habit by absent treatment. Formerly he had been a very social man, a pleasant and agreeable companion, but for a few years previous to taking treatment he had become almost a hermit; would lock himself in his rooms and scarcely see any one at all for weeks at a time, not even admitting his wife when she brought his meals. He is a successful merchant in our city, but during this period his business manager was the only person who would see his face for days. His addiction was complicated with chronic ulceration of the legs. There were five large ulcers on each leg, which covered nearly one-half the surface between the knee and the ankle. These healed very rapidly when they were given proper care. I withdrew the cocain at once, reduced the morphin very gradually to 1/160 of a grain at a dose and March 28 withdrew it altogether. He remained with me about a month after discontinuing the morphin. It was three months after leaving me before he went to his store. Since that time he has paid strict attention to business and is as fond of society as ever. After more than four years he is now apparently in perfect health.

CASE 7.—Mrs. D., age 49, married, had taken laudanum for eighteen years, health very poor, had been under the physician's care for about half the time for twelve years; came to me for treatment Dec. 27, 1898, at which time she was taking three ounces of laudanum a day. I gave her morphin in place of laudanum, and reduced the quantity to 1/120 of a grain at a dose by March 21, about eight weeks after commencing her treatment, when the morphin was discontinued. Her health and strength had improved constantly from the time that she came to me until she was entirely free from the morphin. She remained with me for five weeks afterward and went home in fairly good condition. After leaving my place she lived much of the time out of doors, driving about the country and assisting her husband at such work as she was able to do on the farm, and is at this time, and has been for all of these five years, better than she had been for twenty years previous. This patient, after she had made arrangements to come to me, was visited by her family physician and strongly urged not to try to get rid of the addiction, as he was very sure that in her feeble condition she would die, while she might continue to take the drug and live on, perhaps, for some years.

CASE 8.—Dr. B., 26 years old, single, came to me for treatment Jan. 27, 1898, taking ten grains of morphin a day. He had just previously spent fifteen weeks at another institution for the purpose of getting rid of the addiction and at the time of going there was taking thirty grains of morphin and from twenty to thirty grains of cocain per day. They had withdrawn the cocain and reduced the morphin to ten grains while under that treatment and then pronounced him incurable. Eight weeks after coming to me his dose was reduced to 1/120 of a grain and then withdrawn. He stayed with me for a month after discontinuing the drug and then went into the country to his father's home and worked on the farm until late in the fall. He is now practicing in our city, and seems as well and strong as he ever was.

CASE 9.—Mrs. B., physician's widow, age 53, general health bad, commenced using vaginal suppositories containing morphin twelve years before coming to me for treatment, for the past five years had used morphin hypodermically. Was suffering a great deal from pelvic trouble, headache and sciatica. She came to me Feb. 22, 1900. During her treatment she had several attacks of sciatica which prolonged her stay very much. She was discharged cured August 1. While this patient has not been cured quite three years, I wish to report the case for the purpose of showing that some patients will endure a great amount of pain after being cured of the morphin addiction and yet not return to the use of drugs. She has had many severe attacks of headache and has at times been confined to the bed for days with sciatica. She suffers almost constantly with an ovarian trouble, and yet she tells me that she has never had pain enough to tempt her to take morphin. While she is far from being well, she is much better than while she was using the narcotic.

Case 10.—Mrs. L., age 45, addicted to morphin eight years and to cocain for six years. At the time of admission for treatment, March 4, 1898, was using about 20 grains of morphin and from 30 to 40 grains of cocain per day. I have never seen another patient that was so badly troubled with cocain hallucinations as was this one. She imagined that she could hear persons talking about her constantly, and also that these persons could see her under any and all conditions. It was almost impossible to get her to undress to go to bed, as she was sure she would be seen by these imaginary persons; for weeks she could not be induced to take off all her clothing to be given a bath. She had taken treatment at three or four institutions for the purpose of getting free of the morphin. I am not sure whether or not she had ever been free of the drugs from the time she first began using them. Her mental condition was such that it made her an exceedingly difficult patient to care for. While she was entirely irresponsible, her cunning seemed to be more acute, and twice during her treatment she stole away, went down town and loaded herself with morphin and cocain. It was six months before I was able to get her free from the drugs. The hallucinations had grown gradually less and yet she was not entirely free from them at the time she left my institution in November. She could still hear whisperings and yet she realized that there was no person there, and understood that it would be impossible for one to be whispering and she be unable to see them. She remained in the city with a sister for two months and then went to London, England, where she visited relatives for three months. When she returned she was still annoyed with hearing whisperings, although these were all the while growing less. Up to this time she had had plenty of money. She had been married to a man of means, but two or three years previous he had deserted her. As a result, on her return from England she was penniless. She went to Chicago to seek employment. Being an intelligent and bright woman with good address she soon found work. To-day she is earning a good living, is perfectly contented, and says that she never was as well and happy as she has been since being free from the addiction.

While experience teaches us that many of these patients will relapse, yet I am sure that we are unable to select any particular person and declare his case to be hopeless.

There are probably few persons who would not prefer that a friend would contract diphtheria or smallpox rather than the morphin addiction, after understanding fully the misery suffered in mind and body by a morphinist. I practised general medicine for twenty years, but I do not believe that I have ever seen any other class of patients that were more anxious to be free from their ailments than are drug addicts; and yet the medical profession does not appear to be as much interested in them as their needs demand. Possibly this is so because the disease is often self-inflicted. I believe it is true that there can be as large a percentage of them restored to perfect health as there can be in the case of other patients suffering from some diseases where heroic efforts are being made to relieve suffering or save or prolong life. Hundreds of patients all over this country are to-day treating themselves with some secret or patent nostrum for the relief of this awful condition, not one of whom will be cured, but will go from bad to worse. If they are ever restored to health they must be under the control of some person other than themselves. It would seem to be plainly the duty of every physician to treat these, as it is to treat patients with other diseases. If circumstances are such that he can not give them the attention that their case requires, then it is his duty to give them such advice as will lead to their recovery.

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## DISCUSSION.

Dr. George E. Pettey, Memphis, Tenn.—In my experience, the prognosis in these cases depends more on the cause of the formation of the habit than on the condition of the patient or the quantity of the drug he is taking. In some cases the habit is associated with a moral perversity or mental obliquity, and no matter what method of treatment is employed or to what extent the normal physical condition of the patient is restored, he will very likely resume the use of the drug under very slight provocation. On the contrary, those who become addicted to the habit accidentally, through the course of a painful illness or injury, or through inadvertently taking the drug in some preparation not known to contain it, constitute a more hopeful class of patients. They recognize their condition as one of abject slavery, and are willing to do almost anything to free themselves, but they have not the mental, moral or physical power to do so. When such a person is put into good physical condition, there is little likelihood that he will return to the habit. In my experience, those who use both morphin and cocain are much more apt to relapse than those who use morphin alone. We find that physicians acquire the habit oftener without real cause than do any other class of patients. They are apt to take it first as a stimulant to sustain them during prolonged working hours, and then, through overconfidence, they continue the use of the drug until they become slaves to it.

Dr. A. J. Pressey, Cleveland, Ohio—I presume that in the majority of cases the morphin habit is acquired either through necessity or pleasure, and that the method of the acquirement has some bearing on the prognosis. In my paper, however, I included only those cases that appealed to me as hopeless, and in at least five of them there was no distinct cause or provocation for the formation of the habit. In the majority of cases, however, where a permanent cure is effected, the drug was probably first taken for the relief of some physical ailment.

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# THE TREATMENT OF EMOTIONAL DISTURBANCES.*

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An emotion is much more than a state of feeling. Intense fear, grief, anger or even joy begins as a sort of cortical storm which involves an energetic disturbance of the entire body. Such a disturbance may be a very serious or even fatal complication of a pre-existing disease. Thus John Hunter, suffering from chronic heart disease and liable, when excited, to attacks of angina, said that his life was at the mercy of any scoundrel who should make him angry. While to all appearance in his usual health, he was debating a question of personal importance to himself at a board meeting at St. George's Hospital. One of his opposing colleagues flatly contradicted him, a cardiac attack came on, he instantly ceased speaking, went into the next room and fell dead in the arms of a friend.

Not many cases are so dramatic and angina is fortunately not common, but all patients are more or less emotional, and it would be difficult to find a serious medical or surgical case in which the patient's emotional state is a matter of indifference. It is, of course, true that mental disturbances are generally only a partial or incidental feature of disease and that treatment should be directed mainly by the cause rather than by the symptoms; nevertheless, there are many important symptoms or complications, such as hemorrhage, fever or pain, which must be specially studied from their own point of view, and so it is with the emotions, which are sometimes symptoms, sometimes causes of new complications, sometimes valuable remedies. The physician, moreover, is sure to influence the patient's emotions whether he intends to or not. He ought, therefore, to understand them and see that they are influenced for good and not for ill.

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Other agents, such as drugs or electricity, whose effects are rarely so profound, are carefully studied, but for some reason our profession as a whole has lacked either time or inclination for the systematic study of mental factors in the causation and modification of disease. It is safe to say that this defect will soon be remedied, and that the study of practical psychology will be carried on in the medical schools just as thoroughly and systematically as that of physiology or therapeutics. The purpose of the present article is to consider emotional disturbances as factors with which the physician must deal in every-day practice, and to classify the methods which theory and experience indicate as useful in treatment.

In all emotional states the physical disturbance, which is generally regarded as merely the outward expression of an inward feeling, is really an essential part of the emotion and is the cause, not the effect, of the feeling. To illustrate this theory of James and Lange, which is unreservedly accepted by Ribot, take any case of sudden fear. Suppose a man walking home at night is suddenly confronted by a robber who holds a cocked revolver at his head. Instantly the innervation of the whole body is changed. The heart is first arrested and then beats with wild irregularity; respiration, after a quick gasp, is shallow and rapid; there is a tendency toward both urination and defecation; the skin becomes wet and cold and its intrinsic muscles cause shivering and erection of the hairs; the voluntary muscles, weak and tremulous, waver between a tendency to headlong flight and complete paralysis. These motor and secretory reactions are instinctive, that is, they result from a prearranged, inherited mechanism in the cortex and efferent nerves, which is immediately put into action by the perception of the fearful object. Not until these motor reactions have taken place and the flood of sensory impulses from the disturbed heart, lungs, abdomen, muscles and skin has rushed back on the cortex is there any feeling of fear. Every other emotion normally consists of a similar process, perception or idea being the first, disturbance of the viscera and other organs the second, and the feeling peculiar to the emotion the last link in the chain of cause and effect.

It need hardly be said that all emotions having the same name are not precisely alike in different persons or in the same person at different times. Anything so complex must necessarily be subject to considerable variation. Thus in some persons the heart is predominantly affected in any emotional disturbance, in others the gastro-intestinal tract, in others some part of the genito-urinary apparatus, and so on. If an organ normally involved in an emotion be from any cause unduly irritable, it will react excessively, and the commotion may extend even to functions not normally involved, as when fear or grief precipitates an attack of neuralgia.

Emotions are contagious. An exhibition of fear excites instinctive fear in the beholder; courage in others inspires courage in us; a laugh spreads through a crowd, and so on.

The ways in which a physician may dissipate or control an undesirable emotion may be arranged under the following heads. It is necessary to keep these methods entirely distinct in mind, for, although we usually combine them in practice, the combination to be chosen varies greatly according to the nature of the case, and some one method is always the most important and so should predominate over all the others.

1. The idea exciting the undesirable emotion should as far as possible be removed and replaced by ideas of an opposite tendency, as when a patient who is frightened and depressed by the idea that he has heart disease is thoroughly examined and positively assured that his heart is perfect.

2. The motor reaction characteristic of the emotion should as far as possible be voluntarily suppressed and replaced by the motions and demeanor characteristic of the opposite emotion, as when a patient threatened with a hysterical spell forces himself to breathe deeply and slowly, relaxes the muscles and assumes a calm demeanor.

3. An exhausted and irritable nervous system must be rested, built up and soothed so as to make it less susceptible to emotional storms.

4. Poisons which irritate and depress must be eliminated, as in the so-called uric acid diathesis, uremia, diabetes, alcoholism, etc.

5. A diseased organ which sends abnormal sensory impulses to the cortex and thus causes the feeling of fear or of grief without such mental cause as would otherwise be necessary, must receive appropriate treatment, as in certain cases of disease of the heart, stomach, liver, intestinal canal or pelvic organs.

6. Other means proving inadequate, a painful emotion may be controlled by full doses of opium, as in the opium treatment of melancholia.

1. The first method, by which we seek to replace the exciting idea of an emotion with one of an opposite tendency, is the most obvious. Show the man who is afraid that there is no rational ground for fear, divert the attention of the person oppressed by sorrow to the cheering side of his situation, and very probably there will be a corresponding emotional change. Indeed, the method is almost too obvious, for many rely on it alone when physical remedies would be better. We have to apply this method most frequently to patients who wrongly believe that they are afflicted with a serious disease, especially disease of the heart or genital organs. In such cases, although a combination of resources is generally necessary, positive reassurance given after a thorough examination and repeated from time to time as its effect wears off, is often by far the most effectual remedy. A striking case came under my care five years ago.

Mrs. A., aged 55, whose home was in a Colorado town at an altitude of 8,500 feet, was told about ten years before, when consulting a physician on account of slight palpitation, that her heart was somewhat affected and that she must be careful. From this time on the fear of heart disease took possession of her and the heart seemed to grow steadily worse, especially when at a high altitude or on a journey. For two years she had felt compelled to live, with one daughter to keep her company, in the comparatively low altitude of Denver, while her husband and the rest of the family lived some hundreds of miles away. This was no self-indulgent whim, but a real hardship to her and to all concerned. Examination showed that the heart itself was normal, although sensitive to emotional changes, so the real problem was to restore emotional equilibrium. Positive and repeated reassurance, together with the cheering prospect of living permanently in her own home, was the main remedy, everything else being intentionally subordinated. In a few months she rejoined her family and continued to live with them in far greater comfort than when she was being treated for her imaginary disease.

Every neurologist will recall similar cases and we are all familiar with the despondent young man who thinks that his sexual organs have been ruined when they are in reality normal.

The same principle is applicable to the treatment of night terrors. Acting on a recommendation of Gowers, I have long treated such cases by giving any medicine that the general condition may call for, with the positive assurance that it will enable the little patient to sleep soundly, and the promise that a small sum of money will be given for each good night. The prospect of reward puts the child into a cheerful frame of mind as it is falling asleep, and no doubt favorably influences its dreams. The threat of punishment would, of course, make the attacks more frequent. The cases in which this method will not succeed are rare, and the same treatment will generally break up any form of hysterical attacks in a child.

Physicians are in danger of suggesting depressing ideas to patients without being aware of it. We receive and examine patients as a matter of daily routine, but to the patient an examination is a momentous occasion which makes him unusually sensitive to unpleasant suggestions. In the reception room the first thing to strike his eye may be a copy of Rembrandt's grim picture, "The Lesson in Anatomy," or a view of some famous clinic, or a pathetic scene about the bed of a sick child. The consulting room may be, as a popular humorist describes it, "the chamber of horrors where they keep the skulls and butcher knives." It ought to be needless to say that a patient's thoughts ought not to be turned toward disease and suffering any more than is absolutely necessary. Surgical instruments, anatomic and pathologic specimens and plates, books with gruesome titles and everything of the sort may very well be kept out of sight. On the other hand, all the decorations should be as remote from the idea of disease and as tranquilizing as possible. A physician in making an examination may very well drop an occasional reassuring word as he finds one function after another to be normal. He ought not unnecessarily to mention aneurism, Bright's disease or carcinoma; and he should set an example of unruffled serenity while showing a lively interest and human sympathy.

2. In many cases of morbid emotion the mere appeal to reason will not be sufficient, because the exciting idea is not a reasonable one. Few persons are so fortunate as to wholly escape fits of the blues which are wholly unreasonable. Many a neurasthenic knows perfectly well that he has no reasonable ground for fear, and yet is horribly afraid, just as we all have been at some time when about to speak in public. Here the second principle comes into play. The patient must suppress as far as possible the motor reactions of the depressing emotion and voluntarily imitate those of its opposite. The raw recruit about to go under fire, who is really badly frightened, but who resolutely steadies his trembling limbs, breathes regularly and marches erect, with a bold countenance, not only helps his comrades but also helps himself, for he has to a certain extent substituted the sensations of courage for those of fear.

The power thus to overcome fear grows rapidly with the successful exercise of it, and graduated exercises in putting on a bold front are a most valuable resource in treating neurasthenic fear. An intimate friend, who has for many years successfully practiced medicine under the burden of a multitude of unreasonable fears, tells me that he has derived most benefit from resolutely doing a little of whatever he happens to be afraid to do. It is important that a physician should not demand more of the patient than he can nerve himself to do, for one complete failure may demoralize for a long time.

The most brilliant success often follows the application of this principle to the treatment of hysterical attacks, providing the patient is mature enough and reasonable enough to make a vigorous effort. Convulsive hysterical attacks, both minor and major, are exaggerated emotional disturbances whose motor reaction is largely in the voluntary muscles, especially those of respiration. Let the patient note the first premonition of the attack and she will find that respiration is becoming rapid, shallow and jerky. It must be made slow, deep and regular by sheer force of will. When respiration has been attended to the muscles of the trunk and limbs will probably be found excessively contracted; each group must be voluntarily relaxed and then the breathing attended to again. These instructions, if faithfully followed, will stop any ordinary attack, and most patients can be made to follow them, especially if reassurance in adults or the promise of reward in children be skilfully combined. The following case will serve as an illustration:

A. B., male, aged 25, came to the County Hospital in Denver, March, 1898, to undergo an operation for the cure of convulsive attacks which were supposed to be epileptic. The convulsions were prolonged and violent, and they had become very frequent, but they were clearly hysterical; he was told that no operation could do him the slightest good, but that he could be cured by other means. This apparent underestimate of the importance of his case disappointed him and he left the hospital, but a few days later he came to my office and asked me to treat him privately. As the case seemed to be difficult, a great deal of care was taken to gain his confidence and to properly instruct him. Very soon afterward he had the beginning of an attack which he almost entirely aborted by voluntary breathing and relaxation. This greatly encouraged him, and the attacks soon ceased altogether. He returned to his home in a mountain town, and a few months ago I learned that he had passed an insurance examination, and had been free from attacks for the past five years.

3. In many cases of neurasthenia the two preceding, purely psychologic methods will not suffice. The cortex is in such a state of irritable weakness that the slightest cause of annoyance, fear or grief will have an excessive bodily reaction. In such a case shelter from annoyances, rest, sleep, an abundance of nitrogenous food and such medicines as strychnin, iron and arsenic are of the greatest value, but it is unnecessary to repeat here what is already familiar. One detail of treatment, however, I would like to mention. Small doses of opium (one-twelfth to one-sixth of a grain of the extract three or four times daily, about what would be used to relieve excessive cough) prevent the reaction to a large number of inevitable, trifling annoyances, and

thus give the patient a chance to rest. If such doses are properly combined with other remedies and the patient is not allowed to vary the number of daily doses, they involve no more risk of the opium habit than does the use of an ordinary cough mixture.

4. It is not necessary to say much about the elimination of poisons. Analogy leads us to believe that such terrible emotional disorders as melancholia, mania, acute delirium and transitory frenzy are forms of intoxication, although the poisons have not yet been discovered, and if the cause of any emotional disturbance is obscure we should always carefully consider the possibility of its being a poison of some kind. Byron is quoted as saying: "Talk about champagne! Nothing cheers the spirits like a dose of salts," from which one may safely infer that some, at least, of Byron's melancholy moods were caused by intestinal toxemia.

5. The ancient belief that localized disease of the abdominal viscera causes depression, fear or bad temper, is embalmed in the words melancholia, hypochondria and spleen, and in a general way it has been amply confirmed by modern observation. Part of the emotional effect of abdominal disease is probably due to the formation of toxic substances, but much of it is no doubt caused, as pain is, by the direct transmission to the cortex of abnormal sensory impulses. A diseased heart may also disturb the emotions in two ways: by failing to furnish the brain with a proper supply of blood and by sending abnormal sensory impulses. The altogether different effect of disease of the lungs is illustrated by the euphoria sometimes seen in pneumonia, and the proverbial *spes phthisica*. Although much has been written concerning the relation of mental symptoms to visceral disease, our knowledge of the subject is still vague and incomplete. The necessity of treating any local disease which depresses or irritates the brain, is obvious enough, but the causal relation ought to be very clear before serious operations are undertaken for the relief of mental symptoms. Many gynecologists have undoubtedly gone too far in removing the ovaries or uterus for the relief of mental disturbances, which were really dependent on quite different causes.

6. Finally, there are cases of emotional disturbance, more particularly of melancholia, in which psychologic methods of treatment are of little or no avail, and in which we are ignorant of the physical causes, and can attempt to remove them in only the most indirect and uncertain way. Here opium is a most valuable remedy, just as it is in cases of pain where the cause can not be removed. It not only relieves a considerable part of the mental suffering, but it also tends to prevent the physical deterioration.

## DISCUSSION.

DR. H. T. PATRICK, Chicago—I am in hearty accord with the principles and technic indicated in this paper, and would only add one point, and that is, the supplanting of a good idea for a bad one, or the removal of a fear by a process of demonstration. The mere suggestion or statement of the physician is often not sufficient. We must institute a process of education, and there is nothing better for that purpose than a plain demonstration. Frequently I take a patient who is convinced that he has heart disease for a vigorous run up two or three flights of stairs, or make him run a number of times back and forth the length of my office, in order to show him that he has a perfectly competent heart; to convince him that he can not have heart disease and do what he has done. Then we see the man who complains that his food remains in his stomach for two or three days; that he feels it there. I instruct him to eat a hearty dinner at 6 or 7 o'clock, and the next morning I wash out his stomach, demonstrating to him that the stomach is empty, and hence takes care of his food better than he thought. Then we have the patient who says he does not sleep. I instruct him to go home and stay up all night, and report to me the following morning. He does so, perhaps not having slept at all. I then instruct him to stay awake all day and the following night, and I usually find that he is unable to do so. When such a patient finds that he absolutely can not stay awake for two nights in succession, he will make up his mind that he is not going to die from loss of sleep.

DR. JOHN PUNTON, Kansas City—The profession generally has been very slow in learning the treatment of some of these emotional states, but I am hopeful that the treatment will be placed on a more ethical basis. If drugs will not reach the case, and surgery aggravates it, and massage and hydrotherapeutics have been appealed to in vain, we have still open to us a very potent method of treatment which is embraced in the term mental therapeutics. The application of this method requires tact and experience and good judgment. We are on the eve of a new departure in the treatment of these cases, which have heretofore baffled us, only to be cured eventually by the psychologic methods of the ordinary bold quack, much to the chagrin of the physician.

DR. B. F. TURNER, Memphis, Tenn.—Although the time has not yet arrived, and I doubt if it ever will arrive, when we can dispense with our materia medica, still the time is here to employ psychologic influences in the treatment of certain conditions. In fact, the time for its use has always been here, but psychology has been so much abused under the name of the various "isms" that it is difficult for the unfortunate sufferer who lends himself to it to distinguish between the true and the false. Will this particular phase of therapeusis ever be straightened out? Dr. Pershing referred to the beneficial influence of a cheerful attitude on the sick and suffering, but he made no mention of the occasional value of an attitude opposite to the cheerful. He said nothing about portraying to the young man who is on the road to drunkenness the evils that may result from the excessive use of alcohol. He said nothing about the possibilities of a life of lewdness. All these suggestions can be made valuable as therapeutic agents. The pity of it is that the laity will probably never be much better educated than it is to-day, and as long as that is so the charlatan will be able to impose on the credulity of the ignorant. I approve of Dr. Pershing's condemnation of the popular advertising mediums which are found in too many professional offices. The various apparatus and other articles in evidence in a physician's office are too often put there as cheap methods of supposedly enhancing his dignity.

DR. F. SAVARY PEARCE, Philadelphia—While the public press is willing to uphold the honest physician in the community, and will do it, it will at the same time not hesitate to publish the advertisement of this or that impossible "cure." Such advertisements have a great influence on the ignorant, and even on those who should know better. Our discussion on this subject will never amount to anything until we can educate the public. Every physician must share a part of the responsibility for educating the public. We are not physicians for money alone. We have a duty to the public to perform, and it should be done fearlessly.

A girl had middle-ear disease, and was treated by one of our best aurists. He operated on the mastoid, and curetted the bone, but the patient, though apparently well, still complained of pain. When I examined her, I made up my mind that there was no real cause for pain; that what she complained of was simply a "remembrance" pain. I took her into the hospital, and on the following day, in passing her in the ward, I intentionally struck her over the ear where she complained of the pain, but the blow did not hurt her, to her surprise. In the course of a few days she ceased to complain of pain, and was able to leave the hospital, a perfect demonstration of pure emotionalism.

DR. H. T. PERSHING—For two years I have been giving to our students in Denver a systematic course of lectures on psychology, as applied to the practice of medicine, and the main point I always emphasize is that mental influences are not to be used in a haphazard way. Psychology, just as is physiology, is a real science and a very important one for us to apply. Let the intelligent physician insist that its importance shall be recognized in our medical schools. The patient has not only a body, but also a mind, and we should not attempt to separate them. The daily newspapers and even the high-class magazines do much toward spreading broadcast the seeds of mental disease among the laity. The physicians should recognize the value of mental influences, and when a patient is in need of such treatment, he should receive the best possible from a regular physician, and not be turned over to the quack and charlatan. It is not necessary to resort to deception. You can do everything you wish and still be perfectly honest. Of course, the use of proper drugs is not to be neglected, but in my paper I purposely emphasized the importance of mental treatment. I think that anyone who has used the method referred to in treating hysterical paroxysms will appreciate its value. Just tell your patient that when the premonitory symptoms come on, he should not forget your instructions, but inspire deeply and slowly in order to avert the attack. Then if the voluntary muscles are tense, they should be relaxed. Of course, the general hysterical condition must also be treated, but mental influences are the essential factors in overcoming this condition.

# PULP HYPERTROPHY OF THE TEETH.*

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I was first led to the histologic examination of pulp hypertrophy by the desire to find the conditions of the nerve supply in this so highly-altered pathologic tissue; in the study of the nerves I found not only what I expected—partly complete absence of nerves and partly marked decrease of nerve fibers, thus explaining the great difference in sensitiveness—but also some other very interesting discoveries which I believe are new.

Pulp hypertrophy is to be considered as a new tissue formation due to chronic pulpitis from exposure through more or less complete destruction of the overlying protective tissues. This new growth consists of a comparatively coarse granulation tissue in which three layers can be distinguished. The outer layer consists of a thick stratum of white blood or pus corpuscles beginning to break down, then follows a somewhat wider zone consisting of a proliferation of endothelial cells and capillary vessels, which, seen with a less magnifying power, has almost the appearance of granular layer, similar to that before described in the so-called endothelial granuloma of the dental root. The third layer, which forms the chief mass of the tumor, consists of a coarse, connective tissue with dilated blood vessels interspersed with crowded round cells.

Up to the present I have studied about 30 different specimens mostly obtained in clinics, but for part of which I have to thank my colleagues. I have prepared them in the following manner:

First, I placed the whole tooth with the pulp *in situ* in a 10 per cent. formalin solution, then decalcified it in a 33 1/3 per cent. formic acid solution (which is, as a rule, accomplished in two or three weeks), then divided the tooth, together with the hypertrophied pulp, into two nearly equal halves. Of these halves, such as seemed most suited for further treatment for microscopic examination were taken. These were imbedded in celloidin and cut with the microtome into the thinnest possible layers and then stained partly with alum hematoxylin and picrofuchsin (Van Gieson) and part with Weigert's medullary staining process in which the nerves and their medullary layers appear as dark, blue-colored fibers on a yellowish background.

This shows that in so-called pulp hypertrophy (which arises like a fungus from the pulp chamber and generally fills the carious part crown of the tooth) nerve fibers are absent. In the pulp cavity itself and in the root canals, on the other hand, numerous nerve bundles are found according to the degree of degeneration of the pulp tissue. This degeneration consists in a transformation into granulation tissue, particularly where infiltration with round cells changes into granulation. The nerve fibers are already broken down or beginning to be degenerated, as shown by distortive interruptions and knot-formed swellings of the nerve fiber. Such degenerative processes of the nerves can best be seen in pulps which have been laid open by fracture in attempts at extraction and in which the superficies of the exposed pulp is changed into granulation tissue and pulp hypertrophy.

The study of preparations stained by the Van Gieson methods has convinced me the difference claimed by Rothmund and Arkovy between pulp hypertrophy and pulpitis chronica hypertrophica granulomatosa does not exist. By the pulpitis chronica hypertrophica granulomatosa is understood (according to Rothmund and Arkovy[1]) a granulating mass of the pulp from the size of a millet seed to a pea, soft with little consistency and extending over one or two pulp points. The pulp hypertrophy, on the other hand, which Arkovy calls pulpitis chronica sarcomatosa is a compact, dense neoplasm caused by proliferation of the pulp tissues, distinctly limited, generally smooth and only here and there slightly lobular, less vascular, extending over the whole pulp cavity, except perhaps some very slight portion, including the whole crown cavity of the tooth.

I find neither clinically nor histologically any noticeable difference in the two forms. Both forms of hypertrophic pulpitis differ only in their size and agree perfectly in their histologic structure. The fleshy round bean or hazelnut-sized pulp hypertrophy develops simply through its natural growth from the minute millet seed or pea-sized neoplasm. In both cases there is a degeneration of pulp tissue and transformation into a more or less coarse granulation tissue, which consists of connective tissue fibers with numerous blood vessels, round cells and proliferated endothelium and connective tissue cells.

The striking point in all the specimens is the richness of blood supply. The vessels are not only numerous but also dilated, almost like a hemangioma, so that after extraction of the tooth the hypertrophy loses half its volume.

In almost all cases of pulp hypertrophy there is found to some extent the formation of partly attached, partly free, pulp stones and calcareous deposits. This is in itself not astonishing, since in nearly all teeth which suffer from any kind of pulpitis calcic formations are present to the discomfiture of the investigator, and even in well-decalcified preparations they often cause inconvenient nicking of the microtome knife. But what is here remarkable is the fact that in many hypertrophied pulps such calcareous formations occur well above the pulp chamber and the hypertrophy itself. These calcareous masses or pulp stones are in part round or oval with distinct stratifications and partly irregularly dentated, and show cell inclusions similar to those which are found in the formation of secondary dentin inside the pulp chamber.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

[1] Compare Scheff's Handbuch, vol. xii, p. 297.

How can these things be explained? I believe the pulp hypertrophy only occurs in teeth the pulp elements of which possess great vital energy and capacity for regeneration and in which they can oppose special resistance against incoming bacteria and other morbid influences. If in such teeth from caries the pulp loses its defense (its secondary dentin cover) it is still able to defend itself by forming on its surface granulation tissue in thicker and thicker layers which will have to be called pulp hypertrophy. Even after fracture of the tooth by unfortunate attempts at extraction such pulp hypertrophies can develop, although in such case the pulp is certainly laid bare to a larger extent.

The formation of secondary dentin partly attached to the walls and partly free is to be considered an attempt at defense from external injury. The quicker the pulp is compelled to form secondary dentin the more irregular will be its formation, so the calcification does not follow regular rules and the dentin is not laid down in regular layers, but the pulp cells are included in rapidly-formed irregular dentin structure. Such pulp cells, so over-energetic in dentin formation, may here and there extend with the granulation tissue beyond the pulp chamber itself, and thus far away from their original site form on the crown of the hypertrophy such pulp stones as are shown in some of my specimens.

Some things shown appear at first rather difficult to explain. Thus in one case the surface is covered with regular stratified pavement epithelium instead of the usual round cells and pus corpuscles, also with the high papillæ which are typical of the gum tissue. How does this epithelium develop on the pulp? Usually the excised fragment of a pulp hypertrophy is readily distinguished from a corresponding fragment of an alveolar growth by the absence of epithelium. I explain the process as follows: Hypertrophied pulps are frequently ingrafted with alveolar growths, that is, when a pulp hypertrophy extends outside a pulp chamber over the corroded wall of the crown in contact with the gum tissue. Both are easily injured in chewing so that spontaneous autotransplantation from the gum tissue to the pulp hypertrophy occurs. Six months after preparing the one specimen I found another which demonstrated conclusively the truth of this conjecture. I have seen gum tissue grown over the completely destroyed crown of the tooth of which one was united with the broad surface of the pulp hypertrophy in the pulp chamber. The whole surface of this hypertrophy was already covered with epithelium of the same composition and height of papillæ as that possessed by the alveolar tissue. Later I had the opportunity to separate the gum overgrowth from the pulp and there remained then only the pulp hypertrophy covered with epithelium.

In conclusion, a few words on the therapy of pulp hypertrophies: In cases where the pulp has one of these growths (they are vascular and at the same time poorly innervated) they may be either simply amputated with a pair of fine scissors or pointed knife in the depth of the pulp chamber and then arsenic paste applied to cause necrosis of the root pulp, or the arsenic paste can be applied direct to the crown of the hypertrophy in order to destroy by necrosis the entire tissue. But there is no serious error, in my opinion, in avoiding the use of arsenic altogether, but simply cut off the top of the hypertrophy and cap the stump, or in very small hypertrophies after a thorough cleansing cap the hypertrophy as a whole and over this insert a filling or crown. The possibility of decomposition of the capped hypertrophy might be excluded since the tissue has already been shown to possess remarkable resistance.

# THE CONTROL OF PROSTITUTION AND THE PREVENTION OF THE SPREAD OF VENEREAL DISEASES.*

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This paper is presented under this double caption because venereal disease and prostitution are inseparable terms, and because the control of prostitution is engrossing the attention of most of the large and many of the smaller communities, solely for the avowed purpose of preventing the spread of venereal diseases. By far the more important of the two questions is that which refers to the prevention of the spread of venereal diseases; whatever preventative measures have thus far been instituted have been largely ineffective in character and have been directed against the chief source of infection, prostitution, with a view of either effecting its suppression or control. History is full of attempts of such manifold nature and character as to conclusively demonstrate that suppression is impossible and control impractical and at best of very doubtful value. I need only refer to a few well-known examples to convince the most skeptical that suppression of prostitution is not feasible. The stern and severe regulations of Maria Theresa, at Vienna, and the popes at Rome, were promptly followed by husbands prostituting their wives, parents their children, and by a rapid and alarming increase of venereal diseases. The history of the city of Bonn conclusively demonstrates that, however severe the measures for the suppression of prostitution may be in character, even to the degree of the infliction of the death penalty on the transgressors, they foster not only rapine, seduction, bastardy and infanticide, but an undue prevalence of venereal disease in its most aggravated form. Yet "prostitution must be regarded as the fountain-head, from which venereal diseases originate, and forms the main source of the unbroken vitiated stream of poison, which inoculates the living and contaminates the unborn."[1]

Hardly less unfavorable are the measures which, from time to time, have been and continue to be instituted, in most of the larger communities in this and many foreign countries, not for the suppression, but for the control of prostitution. Although measures for its control have been prepared with the greatest care and wisdom, and have been rigidly enforced with the most conscientious and painstaking effort, it is exceedingly questionable, even in the most favored instances, if the resulting good is ever commensurate with the effected harm.

The most efficient and most carefully exercised control, regulating the proper registration of all known prostitutes, their subjection to police surveillance, submission to careful periodic examination, and compulsory hospital treatment when diseased, even though it could materially diminish the danger of contagion from this particular class, would remain practically ineffective, because it would utterly fail to cope with that larger and more dangerous element, the clandestine prostitutes, who readily escape the most careful system of medical registration and examination and spread venereal disease without license or restraint. Control conditions, therefore, by reason of their irksome and burdensome character (restriction of personal liberty, infringement of private and constitutional rights), invariably augment the more dangerous class of clandestines, and drive those under control from their accustomed haunts and thereby defeat salutary segregation. So evident are the shortcomings of most of the control measures that some of the leading authorities on venereal diseases, both at home and abroad—I need only mention Neisser of Breslau and Blaschko[2] of Berlin (who have pursued with keen interest, under favored conditions, the work accomplished in this direction)—are exerting their powerful influence to oppose these measures because, from a personal disinterested and unselfish standpoint, regarding them as harmful, pernicious and inefficient. Valentine,[3] of New York, states that "the staunchest advocates of registration and periodic examination of prostitutes must admit that the dissemination of venereal diseases is thereby but feebly combated." In Paris, which has had a century of unsuccessful experience, the controlled prostitutes number only 4,700, and are rapidly diminishing in number, while the clandestines number conservatively 10,000, and are rapidly increasing. The brothels show the same proportionate decrease, and now scarcely aggregate 60, where formerly they numbered hundreds.

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* Read before the Ohio State Medical Society, at Dayton, 1903.

[1] Weiss: THE JOURNAL A. M. A., Jan. 24, 1903.

During the past three years, Cincinnati has had another regime of prostitution control by the board of health, entailing regular registration, periodic examination, police surveillance, compulsory hospital treatment or a work-house sentence. Although these regulative measures have been carefully thought out and most rigidly enforced, I have personally failed, from an unselfish and disinterested standpoint, to note that our city has been materially benefited by these measures; on the contrary I can not but question whether they have not on occasions been conducive to direct pernicious harm. If they have been formulated for the purpose of preventing the spread of venereal diseases, as recently affirmed by those directly interested, my personal experience, both as regards private and hospital practice leads me to sincerely believe that, even in this direction, it has proved to be a signal failure. Unfortunately, owing to some recent changes, my clinical records do not permit me to quote statistics, but I am secure in my belief that venereal disease among this class of patients is of as frequent occurrence and exists in as aggravated form as was the case prior to these preventative innovations. Moreover, by far the larger number of clinical venereal cases, and I dare say almost exclusively, trace their origin to the non-controlled clandestine prostitutes. As regards private practice, my records show that out of 606 dermatologic and venereal cases, which came under my personal observation in 1900, 84, or 12.2 per cent. were gonorrheal, and 51, or 8.4 per cent. were syphilitic infections. In 1901, out of a total of 833 cases, 105, or 12.6 per cent. were gonorrheal, and 82, or 9.8 per cent., were syphilitic. In 1902, out of a total of 1,133 cases, 165, or 14.6 per cent. were gonorrheal, and 75, or 6.6 per cent. were syphilitic. For the first five months of 1903 (from January 1 to May 20, inclusive), out of a total of 768 cases, 125, or 16.1 per cent. were gonorrheal, and 67, or 8.7 per cent., were syphilitic infections; or the same ratio estimated for the entire year, would make out of a total of 1,843 cases, 300 cases of gonorrhea and 161 cases of syphilis.

| Dermatology and Venereal Diseases. Total Cases. | | Cases of Gonorrhea. | Cases of Syphilis. |
|---|---|---|---|
| 1900 | 606 | 84, or 12.2 per ct. | 51, or 8.4 per ct. |
| 1901 | 833 | 105, or 12.6 per ct. | 82, or 9.8 per ct. |
| 1902 | 1133 | 165, or 14.6 per ct.. | 75, or 6.6 per ct. |
| 1903* | 1843 | 300, or 16.1 per ct.. | 161, or 8.7 per ct. |

*Estimated for the year, from the records of the first five months, Jan. 1 to May 20, 1903.

From the foregoing table it can be readily seen that for the past four years, during which time a system of prostitution control has been inaugurated and carefully and systematically conducted in all of its details, the cases of gonorrhea in my private practice have steadily increased from 84 to 300 per year in number, or from 12.2 per cent. to 16.1 per cent. of the entire number of dermatologic cases, and the cases of syphilis, with slight variations, from 51 to 161 per year, and from 8.4 per cent. to 8.7 per cent. of all cases. The control, therefore, as at present exercised, is neither able to prevent a material increase in the total number of venereal cases, nor, what is more significant, to prevent proportionate increase in the per cent. over other forms of dermatologic disease.

I am frank to acknowledge that these figures, derived as they are from a strictly private practice, bear to themselves a sort of personal equation. They have been collated from records, gathered without reference to this particular phase of the question, in collaboration with Dr. Clarence A. Ihle. The number is sufficiently large to carry some weight and I am of the opinion that they represent a fair average of the prevalence of venereal diseases in private practice, under existing circumstances, in special reference to their increase or decrease. I am strengthened in this opinion by the impressions of some of my confrères, men who enjoy considerable venereal practice, who have personally stated to me that the results of a survey of their records do not materially differ from mine. The increase in number and percentage of venereal cases in my own practice is significant, when we take into account that, during the past four years, four cases out of five are dermatologic, that dermatology is my specialty, and that venereal diseases have been treated as a side specialty, for the most part as an integral and almost inseparable part of dermatology. In order to determine with greater accuracy and precision to what degree the spread of venereal diseases was prevented by the present system of control, the source of infection has been carefully traced in each individual case, as accurately as possible, for the past six or seven months, and recorded. If the control is as effective as its most ardent supporters would have us believe, relatively few cases could be traced to the individuals who are under the ban of medical registration and examination. My results showed that not relatively few, but on the contrary, a surprisingly large number could be traced to control prostitutes, 30 for the months of November and December, 1902, against 38 contracted from Cincinnati and its neighboring clandestines, and 7 from foreign sources. My records from Jan. 1 to May 20, 1903, are equally significant and, according to the following table, show 57 infections from control prostitutes against 69 of clandestine nature.

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[2] Blaschko: Hygiene of Prostitution u. Venerischen, K., 1900.
[3] Valentine: N. Y. Med Record, Nov. 8, 1902.

Table, Jan. 1 to May 20, 1903.

| Source of Infection. | Gonorrhea. | Syphilis. | Ulcus Molle. | Condyloma Acuminata. | Total. |
|---|---|---|---|---|---|
| Cincinnati clandestines. . | 49 | 19 | . . . . | 1 | 69 |
| " exam. prostitutes | 43 | 8 | 4 | 2 | 57 |
| Foreign sources. . . . . . . . | 10 | 10 | 2 | . . . . . . . . | 22 |
| Innocent infections. . . . . | 1 | 8 | . . . . | . . . . . . . . | 9 |
| Record unobtainable.. . . . | 22 | 22 | . . . . | . . . . . . . . | 44 |
| Total . . . . . . . . . . . . | 125 | 67 | 6 | 3 | 201 |

Total of all dermatologic and venereal cases, 768.

From the foregoing it can be readily inferred that the control, as at present exercised, is not a very effective one, that most of the cases are contracted, even in private practice, outside its pale, and that the regimen exercised over control prostitutes, however rigid or carefully carried out, does not render them non-infectious in character.

If the system was simply ineffectual and powerless to show positive results I, for one, would not endeavor to criticise it unfavorably or invoke its just condemnation. Sincere as is my belief, from a thoroughly disinterested and unselfish standpoint, that it is powerless and impotent to materially prevent the spread of venereal diseases, I am doubly assured that its influences in other directions are decidedly pernicious and that it effects material harm.

Control with periodic examination gives to the laity a false sense of security. There is no more powerful conservator of social purity, I believe, than the fear of impending danger to the transgressor, the fear of contracting a venereal disease; this fear is materially minimized by the assurance of the periodic examinations made for the purpose of determining the abscence of infectious diseases. This assurance is increased in Cincinnati by the issuance of a diploma-like certificate, which "must be exhibited conspicuously in the room occupied by the person to whom it is issued." Though clearly evident that this practice is alluring and attractive to the inexperienced and uninitiated, it suffices to state that it is an experience common to many practitioners, to meet infected patients who, under the guise of this false security, have indulged in an intercourse from which they otherwise would have abstained, or in which they would have otherwise used measures to prevent infection. That the issuance of these certificates is pure deception and fraud, is evident from the innumerable infections which can be traced to the possessors, 87 cases occurring in my own practice in seven months' time.

It is generally conceded by most authorities, Blaschko,[4] Jadassohn, Neisser and others, that one-half to one-third of the prostitutes, even in control cities, are constantly infected with gonorrhea, and that at least 80 per cent. of them are infected with syphilis during their first year in that life. Havas[5] states that after the gonococcus has passed the cervix and reaches the adnexa, the disease is incurable and the prostitute becomes a source of constant infection. In the light of these facts, it is certainly farcical, I may dare say criminal, to grant this highly contagious class of individuals a certificate, with the injunction that it be prominently displayed, reading that "We have made careful examination of said —— and find her free from any venereal or contagious disease."

If these certificates were issued only to prostitutes living in public houses or alone, and more or less clandestinely pursuing their calling, though seemingly uncalled for and unjustified by clinical experience, it would be more pardonable than the much graver offense of granting them to masseuses, manicure artists, etc., who, under the guise of an affected calling, are licensed to practice prostitution without fear or restraint, and under the cloak of this deception to advertise it in the daily press and thereby virtually place an additional premium on vice. A large quota of recent infections, in my practice, have been contracted in a certain massage and manicuring establishment, whose advertisement appears almost daily and whose inmates are regularly examined and are given their certificates, and this control, in Cincinnati, we are assured is practiced solely for the purpose of preventing the spread of venereal diseases.

But the sacrifice of the many unsuspecting and falsely assured innocents on the alluring altar of venereal disease is not the only harm that can be attributed to control. The power which it exercises over these unfortunates becomes almost absolute, and one from which there can be no appeal. It can and often does usurp constitutional rights, restrict liberty, infringe personal privileges, make hospital treatment compulsory, or even impose a work-house sentence. These conditions not only pave the way for an uncalled-for interference, and create opportunities for blackmail and personal gain, but, by rendering the position unduly hard, tend to materially diminish the number of controls and to increase the more numerous and more dangerous clandestines. The fear of the penalties which may be imposed, compulsory hospital treatment, etc., often impels these individuals to conceal from their examiner the various forms of venereal lesions (mucous placques, condylomata lata, gonorrhea, etc.), to which, if his work is at all effective, his attention should be particularly directed. Formerly they took an interest in bringing these lesions to the attention of their private physician, but of late the fear that this knowledge may reach the ears of the examiner and incur his displeasure, removes them also from this attention.

There can be no question but that exercise of power occasionally has been very much abused in Cincinnati. An example was the suicide of a beautiful young girl of respected parentage who died within the past year at the City Hospital because she had been threatened with arrest and prosecution at the hands of an influential citizen whose displeasure she had unfortunately incurred. A striking example, illustrating to what excesses such an elastic system of blackmail can be carried, occurred in my presence in one of the control wards of the City Hospital. One of the unfortunates who had apparently served out her full quota of time and imagined that she was sufficiently free from her ailments to merit her just release, addressed the controlling staff officer by asking, "Say, you, when are you going to let me out?" I am sure that the unfortunate one never intended the remark to be uncivil or disrespectful, but the autocratic staff officer, who, incidentally, is one of the most active participants and ardent advocates of prostitution control, replied: "What, you say 'you' to me; I'll teach you better; you will stay four weeks for that." The Czar of Russia could not have exercised over his own subjects more absolute or arbitrary control, and her injured feelings, restricted liberty and infringed rights took vent in a flood of tears. Instances of this character could be multiplied almost indefinitely. Individuals belonging to this class are almost daily subjected to the indignities of arrest and persecution, on the illegal charge of loitering, and if not illegally confined in a hospital or prison, suffer infringement of private rights and restrictions of personal liberty. It frequently happens that these individuals, when illegally confined, will buy their personal freedom and liberty at the price of a marriage compact, which is the equivalent of making a hollow mockery of one of the most solemn, holy and impressive ceremonies of our higher, enlightened civilization.

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[4] Blaschko: Berlin klin. woch., 1892, 5.

[5] Havas: Monatsh. f. Prak. Derm., xxxiii, p. 144.

We will credit the officers who exercise the present prerogatives of control in Cincinnati with being honorable, conscientious and upright, although somewhat blind in their supreme faith in their personal efforts. The facilities for exercising an unfair interference and for secretly extorting blackmail in return for protection are so pronounced that, if perchance control were exercised by officers who were unscrupulous or dishonest, they could rapidly and successfully inaugurate a foul and degraded system of corruption. I am informed that these individuals, even under the present system, are in such moral dread of an unfair discrimination or an unjust interference, that they seek medical attention only from the regular examining physicians, and are timid in seeking attention elsewhere, however desirable in character, for fear that such information may reach the ears of the examiner and incur his displeasure. This influence is decidedly pernicious, because any measure which tends to discourage medical attention only tends to promote the spread of venereal diseases. This same moral fear of the examiner and the compulsory treatment he is able to impose also prompts these individuals to discourage every form of medical attention and to hide any knowledge which would lead to the discovery of any form of venereal infection, to lavage freely immediately prior to each examination and to conceal venereal lesions of every infectious form. As long as the prostitute looks on the examiner, not as a physician and benefactor, but as her persecutor and prosecutor, so long will any measure for the exercise of a successful control and prevention of the spread of venereal diseases defeat the very object it seeks to attain. Medical service to this class of patients should be freely given and should be the very best that can be given; it should not be imposed combined with compulsory hospital treatment at $1 per day. In order that these unfortunates should be encouraged to freely seek proper attention it should be given with all the privacy and refined and delicate detail that is awarded to the treatment of these cases in careful private practice, not by officials wearing the badge of supreme authority, but by those having nothing else to recommend them except their painstaking, conscientious efforts and their personal attainments, as able, successful and efficient physicians.

The present Cincinnati health officer and official head of the prostitution control stated recently that the 500 regularly weekly examined prostitutes constituted three-fourths of the source of infection of venereal disease. I do not know the source of his information, but personal knowledge of the self-supporting industrial female life in Cincinnati, of the large number of dependent females employed in our numerous factories, of the unhealthful moral atmosphere in which they work and live, of the close association of the sexes in the work-room, of their love for luxury and personal extravagance, not commensurate with their usually moderate income, leads me to believe that the clandestines number at least 10,000 and, granting that the control prostitutes average five or even ten callers a day, that they by no means constitute the greater source of infection. The fact that sixty-nine cases of venereal disease were contracted in five months from Cincinnati clandestines, against fifty-seven from control sources, in a private practice, speaks for itself, that the greater source of infection is from the clandestines, especially when we consider that these infections occurred for the most part among a well-to-do class who can easily afford the relative greater expense incurred in control indulgence. In the more numerous indigent, and for the most part laboring class of individuals, the proportion of the clandestine infections greatly predominate, and in clinical practice it is almost the exclusive form of infection.

We have now considered the inefficacy of the present control, its harmful and pernicious influences and the dangers which may attend its unscrupulous administration; we will now consider briefly a few additional measures, which, if properly conceived and consistently carried out would, I believe, innure to the prevention of the spread of venereal diseases. First and foremost is, I believe, a thorough education of our youth—which should become an integral part of their general schooling and training—as to the dangers that attend improper relations; that continence and abstinence are strictly compatible with the best of health and well-being; that in case they should feel unable to properly restrain their inordinate passions—and I state this with some reservation as applying particularly to those individuals and practitioners who believe that inordinate passions must be sexually gratified and whose watch-word rests in the unsuppressible and uncontrollable character of prostitution—indulgence should be sought only from proper sources, in which event they should be given the best form of instruction in regard to self-protection.

When we consider the numerous causes which predispose to prostitution, one of the most potent factors, not even second to the assurance of freedom from the danger of contracting venereal disease, is a sense of security against subsequent conception and parturition and the resulting publicity and social disgrace. This feature is so alarmingly prevalent in Cincinnati that a wholesome fear in this direction no longer exists, and a great incentive is thereby given countless individuals to take the initial step that invariably leads to remorse and despair and often to degradation, disease, abject misery and an early death. Abortion is practiced with such license and freedom that there are men who have gained, among the masses, special reputations in this field of work, so that their names, in this connection, are almost household words. Some of them occupy prominent offices in our high-class office buildings, and it is not an uncommon experience to find patients astray in the wrong office inquiring for "the doctor in the building who does that kind of work." I am sure that if the health department had exercised one-fourth the effort expended in controlling prostitution in correcting this flagrant and nefarious malfeasance, it would have rendered a ten times more grateful and actual service, and at the same time would have exercised a more genuine control, that would have in due course of time prevented in greater measure the spread of venereal diseases.

There are a number of more legitimate and far more productive fields for the exercise of measures for the prevention of the spread of venereal diseases than the exercise of a doubtful and oppressive control over prostitution. Aside from the proper education of our youth, the instruction in individual prophylaxis, and a control over licentious abortion, regulative measures should be adopted, inquiring into the self-supporting character of female industrial life, the close association of the sexes in the work-room, the immoral atmosphere in which they work and live, remuneration commensurate to a degree with proper living and being, enactment of legislation for the salutary segregation of public and clandestine prostitutes, and its enforcement within bounds of propriety, justice and reason. It should abolish common drinking cups and utensils and promote education along the lines of phophylaxis in regard to the dangerously unclean dental, manicure, chiropodist and surgical instruments, and the prolonged infectious character of venereal diseases.

Time and space do not permit me to give to these and many other measures (for example, the establishment of homes for the tempted and fallen), the attention they justly deserve, inasmuch as they are somewhat foreign to the subject of the control of prostitution in reference to the spread of venereal diseases, they scarcely merit special consideration in this paper.

A few quotations, recently gleaned from some of our leading specialists, relative to the subject will not, I trust, be out of place at this juncture. Stelwagon[6] of Philadelphia states: "We will never make headway in the control of venereal diseases by legalizing prostitution or recognizing it as a legitimate calling." Gottheil[6] of New York says: "Municipal regulation, as practiced in many of the European cities, is neither successful or desirable." E. L. Cocks[6] of New York says: "A streak of over-conscientiousness and trying to do something—and the result has been that prostitution, which was confined to the tenderloin, has been scattered all over the city. Under the new order of things, prostitutes are now our neighbors."

To briefly recapitulate, suppression of prostitution is impossible, and control is impractical; it is absolutely incapable of coping with the larger and more dangerous class of clandestines, and it is powerless and impotent to materially prevent the spread of venereal diseases, emanating from those directly under control. Its influences are decidedly pernicious and harmful, inasmuch as it defeats salutary segregation, increases the more dangerous class of clandestines, restricts liberty and infringes on personal and constitutional rights. It legalizes crime and fosters disease and immorality by imparting a false sense of security, and is virtually a deception and a snare. It creates opportunities for blackmail and personal gain, brooks an unjust and often unendurable interference, and discourages necessary and salutary medical attention. There are far more rational and legitimate measures for the prevention of the spread of venereal diseases, along the lines of the suppression of abortionists and the inculcation of general and individual education and prophylaxis.

## Clinical Reports.

### A CASE OF ANGINA AND DYSPHAGIA,

ILLUSTRATING THE VALUE OF ANTISYPHILITIC TREATMENT IN A CONDITION MISTAKEN FOR EPITHELIOMA.[*]

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*History.*—Mrs. X., a widow, about 35 years of age. Her husband died of pulmonary tuberculosis about 18 months before I saw her. She nursed him during his illness, and in consequence of much loss of rest, and of the great physical and mental strain, her health had been much impaired. In the year following, however, she had apparently regained her health and strength. She was a brunette, well nourished, and physically well developed, of a bilious temperament and of active habits. The account of her ailment, for which she sought the advice of the late Dr. Thomas G. Morton, was that for the last six months she had experienced great pain in swallowing, even on the attempt to drink a little milk or water. Otherwise her health had been good. She thought that she had lost a few pounds in weight, which she attributed to her inability to take nourishment. She located the pain principally on the right side of the throat, in the pharynx. There had been no change sufficiently marked for her to notice it for several months, except that the pain had become more severe. She had been under medical treatment for the preceding six months, without relief, and her physician had referred her to Dr. Morton for surgical treatment, stating that she had epithelioma of the throat. She was willing to submit to an operation if necessary.

*Examination.*—At Dr. Morton's request, I examined the patient at his office and saw her there several times subsequently. On inspection, I found an area of passive hyperemia involving the right tonsillar region, the anterior and posterior pillars of the pharynx, and extending a little on to the soft palate; the tissues were slightly swollen, but the surface was clean and not ulcerated. The appearance was that of an ordinary crescent inflammation, except that the color was a deeper red, and the tonsil itself was not enlarged. On digital examination I did not detect abnormal hardness. The touch of my finger caused a paroxysm of agonizing pain, lasting several minutes. There was some tenderness externally, under the angle of the jaw, but no glandular involvement could be detected. The postcervical and epitrochlear glands and those on the mastoid eminences showed no marked evidence of disease; although a few could be felt and moved under the examining finger, they were not hard, tender, nor much increased in size.

*Diagnosis.*—Three possibilities suggested themselves, viz.: epithelioma, tuberculosis, and syphilis. From the absence of glandular involvement, we might also include sarcoma, but it did not seem possible that in six months' time such a tumor could have made so little progress and the general health have suffered so little impairment. The diagnosis of epithelioma, which she had brought with her, demanded more deliberate consideration. It had been made by a physician who had studied the case for months. The long duration and comparatively slight development of the lesion would exclude epithelioma, were it not for the fact that the malignancy might have been a comparatively recent development, possibly as the result of too vigorous treatment with caustics or irritants. Opposed to the view of cancer was the appearance of the lesion, the absence of infiltration, and particularly the apparently normal condition of the submaxillary lymphatic glands. Moreover, there was no appearance of cachexia whatever.

In favor of tuberculosis of the throat were: 1, The history of nursing a husband who had died of phthisis; 2, the chronic nature of the lesion, which had refused to heal under medical treatment; 3, the age of the patient and her bereaved condition. Opposed to this diagnosis were the facts that: 1. The lesion was not ulcerated; 2, the lungs were normal, and, 3, there was no evidence of constitutional symptoms, although the disease had existed for so long a time.

We were driven to the hypothesis of syphilis, although the evidence in its favor was of the most intangible character. To the usual queries as to history of eruption on the skin, bone pains, loss of hair, sores in the mouth or elsewhere, negative replies were given. The circumstances did not admit of a close examination for the stigmata of syphilis—apart from the condition of the lymphatics of the neck and arms, which was not at all conclusive. Taking into consideration her appearance of general good health, her social condition, and the clinical maxim that "no condition in life absolutely excludes the possibility of syphilis," we decided to proceed to the test of a therapeutic diagnosis, as but little time would be lost in case it should prove to be malignant, and the treatment would afford some relief to the symptoms, in either event. Whether the lesion might be primary, secondary, or tertiary, could not be decided positively in the entire absence of any history of infection. But the absence of enlarged glands under the jaw, and the extreme painfulness of the lesion, were in favor of a late manifestation. There were no constitutional symptoms, skin eruption or mucous patches in the mouth, as we might expect in the secondary stage, so we concluded that the lesion was probably gummatous, although its color, and the fact that it had not ulcerated, could not be reconciled very closely with this view.

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[6] The Journal A. M. A., Jan. 24, 1903.

[*] Read before the Section on Otology and Laryngology, College of Physicians, Philadelphia, 1903.

*Treatment.*—The line of treatment decided on was as follows:

| | | | |
|---|---|---|---|
| ℞. | Hydrargyri iodidi flavi | gr. 1/3 | 02 |
| | Ext. gentianæ | gr. ii | 12 |
| | Ext. hyoscyami | gr. 1/4 | 015 |

M. et ft. pill No. i, gelatin coated. Sig.: Take one pill three times daily after meals.

She was also given the following:

| | | | |
|---|---|---|---|
| ℞. | Potassii chloratis | ʒii | 8 |
| | Ext. rhois glabræ | ʒvi | 24 |
| | Glycerini | ℥ss | 15 |
| | Aq. rosæ q. s. ad | ℥vi | 180 |

M. Sig.: Dilute with two parts hot water and use frequently as a mouth wash and gargle.

To relieve the extreme hyperesthesia of the throat, she was given ten-grain doses of potassium bromid, three or four times a day for a few days. She was directed to eat four eggs a day and to drink two quarts of milk, in addition to broth, breakfast cocoa and *café au lait*. The local treatment consisted in the application of a forty-grain solution of nitrate of silver to the affected area, about once a week.

*Results.*—Three days after the first consultation, she presented herself and reported very great improvement. Her throat looked better and the pain on swallowing liquids was almost gone. In the course of five weeks she had entirely recovered. As a matter of precaution, she was advised to continue a mixed treatment for several months longer, with occasional intermissions of a week. As she has not returned for further treatment, I conclude that she is still enjoying excellent health.

*Comments.*—Cases of syphilis of the throat are sufficiently common to be allowed to pass without comment; the only points deserving of notice in the present case are the long duration without ulceration, the extreme dysphagia, and the very prompt response to the treatment pursued. It is also an illustration of the diminishing value of a history of the primary infection with syphilis, in making up the diagnosis. Cases of syphilis insontium are not rare, and, in view of the facility with which the virus may be communicated by kissing, by the use of public drinking cups, by unclean dental instruments, etc., it is a matter of wonder that they are not vastly more common than they are.

218 South Sixteenth Street.

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# STRYCHNIN POISONING BY INHALATION.

MINERVA M. NEWBECKER, M.D.
ORD, NEB.

*History.*—May 31, 1903, I received a hurried call to visit a man in the country who had been poisoned by strychnin. I found the patient wrapped in comforters, and propped up in an easy chair. He appeared to be well nourished, was 30 years old, and had never been sick a day in his life. He was very nervous and greatly prostrated. His heart was beating at about 88 per minute and very irregularly, and had a decided tremor. His tongue was coated and trembling, and somewhat moist; his eyes were suffused and the conjunctivæ injected; the muscles about the mouth were retracted, showing his teeth and giving to his face the "risus sardonicus."

*Etiology.*—I was given the following history: Two days previously he was preparing a mixture to poison rats. It consisted of some corn, mixed with strychnin powder, over which he poured hot water, stirring it thoroughly with a stick. The water was not boiling, but was hot enough to rise in steam; this he inhaled while bending over the mixture. While he was working thus he had a feeling of chilliness, and a numbness crept over him, followed or accompanied by a tingling in his hands, which soon extended all over his body. Then he felt muscular twitchings and jerkings resembling spasms, and lightning flashes which began with his hands and extended up his arms to his face and spine, and finally involved the whole body. There was no opisthotonous or loss of consciousness, but an intense anxiety and fear of impending death. The jaws felt stiff, the secretions were arrested, the tongue was dry and cracked, and the urine suppressed. The severity of the attack lasted about an hour.

*Treatment.*—Various remedies were administered by his friends. They tried to cause emesis with warm water and mustard, but failed; then they gave him cathartics, and finally resorted to melted lard. He soon experienced relief, and took the lard with avidity, continuing to do so at intervals all night. He slept none, but felt better in the morning. The bowels moved freely from the cathartic, and the flow of urine was copious. During the forenoon he had another attack, but milder than the first, and still another in the afternoon. The lard treatment was resumed, and again gave relief. He slept none the second night, and kept the lard can beside his bed, eating it cold when he felt the numbness coming on, which occurred once or twice during the night. About noon he found himself growing worse, and sent for a physician. As I found him weak and trembling, with the temporal arteries hard and prominent, and still suffering from too great arterial tension, I gave him five or six drops of Norwood's tincture of veratrum viride, and he soon became easier. I left some potassium bromid and chloral, to be given at night and whenever he felt the spasms coming on; also antispasmodics and stimulants to be given during the intervals, and castor oil to take the place of the lard, and recommended that he be kept quiet in bed and allowed to sleep.

*Course.*—Three days later, being called again, I found him sitting up, evidently much improved. He was having a slight spasm once a day. Some hours before these spasms would begin he was unable to urinate, a few drops only passing away at a time; but when the spasm was over he passed about two quarts at one time. He had no desire to urinate until after the attack. He had no feeling in the genito-urinary organs; they seemed to be involved in the general anesthesia. He sweated profusely in the intervals of relaxation, and to further stimulate the skin and assist elimination I recommended a warm sponge bath to be given at night, and attention to the excretions of kidneys and bowels. I prescribed enough bromid and chloral to insure good rest, to be withdrawn as the nervousness and insomnia passed away. Beside this, a general tonic was given. Some two weeks later the patient called at the office. He was still nervous, and occasionally felt slight jerkings and twitchings, but had no pronounced spasms and was slowly regaining his strength. To my question as to whether he might not have conveyed some of the powder to his mouth by his hands, he answered in the negative; he was sure no powder adhered to his hands.

*Comments.*—This case was interesting to me, as the liability to strychnin poisoning by inhalation had never been brought to my attention, and I do not find the subject treated of in any books at my command, though, from the extreme solubility of the drug, such liability may be a well-known fact. While the alkaloid, strychnin, is difficultly soluble, the sulphate, presumably the salt used, is very soluble, being 1 part to 10. The vapor, carrying in solution a small amount of the salt, comes in contact with the moist surface of the mucous membrane of the nose and mouth, is readily absorbed and carried into the circulation, some of it, no doubt, being swallowed, and entering the portal circulation from the stomach. Strychnin is rapidly absorbed into the system, and very slowly excreted, most by the kidneys, then by the mucous and cutaneous surfaces. This emphasizes one point to be observed in the treatment: that is to draw off the urine to prevent accumulation in the bladder, which admits of reabsorption of the poison held in solution, and its return to the circulation, thus exerting its deleterious influences on the system again and again. Strychnin, like digitalin, diminishes the secretion of urine by causing powerful contraction of the renal vessels, and a large dose may completely arrest its secretion, and probably also the circulation through the kidneys. There was a question in my mind, however, whether the urine in this case was really suppressed, or whether the bladder was full to overflowing, and a little dribbled away, from lack of sensation. Patient claimed that he had no feeling in those organs, before and during the spasms, but as soon as they were over, leaving him in a relaxed and weakened condition, the urine flowed freely, and was passed in large quantities.

I should be glad to learn whether this means of strychnin poisoning has been observed. It seems improbable to me that a sufficient amount of the poison could have been swallowed from the secretions of nose and mouth to cause such serious symptoms.

## A CASE OF DIPHTHERIA AT SEVENTY-SIX YEARS OF AGE.

A. BELCHAM KEYES, M.D.
Professor of Gynecology, Chicago Policlinic; Instructor in Rush Medical College.
CHICAGO.

*History.*—Some time ago I was called to see P. D., aged 76, who complained of a slight indisposition and of having had on the previous day a slight stiffness of the neck, from which he had recovered before my visit.

*Examination.*—The pulse was 82 and temperature 99 F., condition of vascular system somewhat arteriosclerotic, heart, lungs and urine negative. On the right leg was a varicose ulcer about the size of a silver dollar.

I examined the throat in a routine way, and found on the left anterior pillar a small, oval-shaped, whitish-gray patch about half the diameter of a dime, and laughingly remarked that the patient was getting the children's diseases over again, and promised to return later and make a culture before prescribing any antiseptic gargle or spray so as not to interfere with the growth on the culture media.

*Diagnosis.*—Two hours later I inoculated two of our small health department culture boxes from the patch and in due course stained and examined, finding a pure culture of Klebs-Loeffler bacilli.

*Treatment.*—The culture was submitted to Drs. Adolph Gehrmann and R. B. Preble, with a request to the latter to inject antitoxin, 2,000 units being injected without apparent baneful influence on the system in any way. At the same time a three-year-old grandson who had arrived at the house that day on a visit was injected with 1,000 units. Beside isolation, I prescribed antiseptic gargles, both as a curative and a prophylactic measure, to lessen the chance of the spreading of the disease among the rest of the family.

*Course.*—The case apparently ran its course absolutely without symptoms, the patient to this day refusing to believe the true nature of the disease, because at no time was there the slightest indisposition after the first day. A fresh culture four days after the first was forwarded to the health department and again a confirmatory diagnosis was made microscopically.

*Comments.*—The peculiar feature remarked on the senile atrophied mucosa was the absence of any sign of either a tendency to spread or to shedding of the pseudomembrane for about ten days, until I at last had it swabbed several times a day with tincture of iodin. Some time later the leg ulcer also healed almost entirely.

The patient is now in good health. The child did not contract the disease. I report the case because of the extreme age of the patient, and to show the necessity of making a culture in all cases of throat disease, no matter what the age of any suspected case of diphtheria may be, also to show the probability of its dissemination by adults of all ages in whom the disease may fail to cause symptoms.

## New Instrument.

### A NEW INTRAGASTRIC BAG.

J. RAWSON PENNINGTON, M.D.
CHICAGO.

The value of the intragastric bag in the treatment of many forms of stomach and intestinal diseases is no longer questioned. There are many bags on the market, but none of them is constructed so that a definite relation can be maintained between the distal end of the stomach tube and the bag. The consequence is that the free end of the tube frequently curls up and catches in the side of the bag, which is not only disagreeable to the patient, but often ruptures the bag in withdrawing the tube from the stomach.

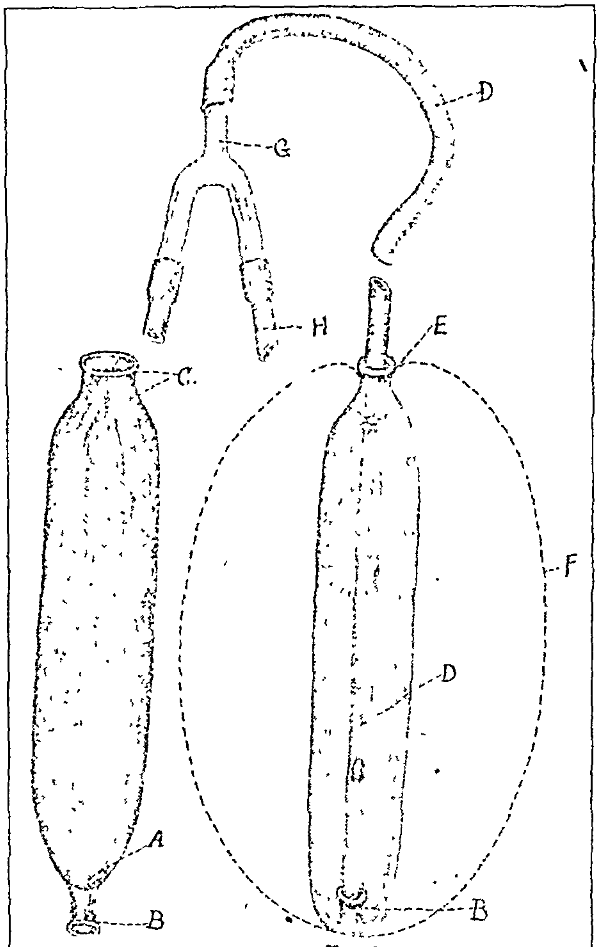

Fig I   Fig II.

The bag shown in Figures 1 and 2 is made of extra fine rubber tissue, and is so constructed as to overcome these objections. To the distal end of the bag is vulcanized a small tube, AB, which fits snugly over the distal end of the stomach tube, D, and is made secure by a ligature. The bag is then pulled over the tube, D, and secured by another ligature, E. Both ends of the bag now being tied to the tube, they maintain a definite relation to the tube and to each other, whether the bag is empty or distended. G is a Y-shaped glass tube inserted into the tube D. Over the arms of this Y-shaped tube two rubber tubes, H, are fitted, acting as inlet and outlet tubes, with stopcock attachments, enabling one to use a single stomach tube for the same purpose that a double tube is used. The bag can be used with either the open or closed end, single or double stomach tube.

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## NERVE FIBERS AS PATHWAYS FOR TOXINS, AND THE TREATMENT OF TETANUS.

A short time ago we called attention to the significant experiments of Meltzer, who found that if a nerve is ligated in one point and the animal injected with methylene blue, the nerve becomes stained throughout, but that if the nerve is ligated in two places the intervening portion remains unstained. From this it may be inferred that whatever fluids enter the neurons, whether food or poison, enter from the extremities of the neurons and not from the blood vessels coursing along the nerve. It must be, therefore, that there is a continuous streaming within the substance of the axis cylinders, perhaps allied to the streaming of the protoplasm that occurs in the cells of certain plants and lower animals, by which means substances may be transported along the axis cylinders. As the myelin sheath seems to be a rather impervious structure, it may explain the failure of substances in the vessels of the nerve trunk to enter the axis cylinder along their course. This novel condition of circulation within the nerve fibers may be expected to throw more or less light on some of the nervous diseases, and we at once think of two to which this particularly applies—tetanus and rabies. It so happens that this work of Meltzer's fits most beautifully with the most recent observations in regard to tetanus. As these appear to be of practical value in suggesting a more hopeful method of treatment of tetanus, we shall endeavor to explain them briefly.

In laboratory animals with tetanus, whether resulting from inoculation of bacilli or toxins, the first and most severe manifestations appear in the muscles near the region of the inoculation. This localization is not usual in man, for, irrespective of the site of injury, the earliest effect is usually in the muscles of mastication, yet occasionally it happens that the spasms first develop in the injured part, as they do in animals, and still more often it may be noticed that the injured area is more affected than the rest of the body. Particularly to be mentioned is the "head tetanus" following wounds of the face and head, oftenest in the course of the fifth cranial nerve, which is followed only by local spasms, often limited to the injured side of the head. Because of this peculiarity, it has been thought that the nerves rather than the blood vessels were the carriers of the poison to the cord, thus explaining the localized results. Indeed, during a certain period in the history of the pathology of tetanus it was sought to treat tetanus by excising part of the nerve supplying the injured area, because the spasms were thought to be due to exaggerated reflexes resulting from irritation of the endings of the nerve.

Antedating Meltzer's publication, Meyer and Ransom[1] have obtained by careful experiments results that indicate what Meltzer proved, that the peripheral nerves may carry substances within their axis cylinders toward and into the spinal cord. According to their results, tetanus toxin reaches the ganglion cells of the cord solely by passing along the axis cylinder processes. None whatever reaches the ganglion cells through either the blood stream or the lymph stream. Apparently the point of entrance is in the terminals of the motor nerves, where they are devoid of the myelin sheath, and the sensory nerves seem entirely unable to carry toxins from the periphery to the center. Injection of tetanus toxin into the sensory roots caused only increased pain reflexes, but none of the characteristic muscle spasms. Furthermore, the poison seems to diffuse upward in the cord, for if the spinal cord of an animal inoculated in the hind leg was severed the tetanus was limited to the posterior portion of the body. It has always been considered rather remarkable that tetanus toxin required so long a period of incubation after injection, acting less like a ready-formed poison than like an infection; for this many explanatory theories have been advanced. Now it would seem that the greater part, if not all, of this incubation period is occupied by the passing of the poison from the periphery to the cord, for if the poison is injected directly into the cord in animals the symptoms appear at once, without the usual delay of hours or days.

In tetanus, therefore, it seems that the poison reaching the cord through the motor axones produces a hyperexcitability in their ganglion cells; so that they respond over-much to slight stimuli, such as are continually brought by the afferent fibers, and which, normally resulting in muscle tone, in this case cause tetanus. Within the cord the excessive poison is spread further until the cord is more or less completely affected, with consequent reflex hyperexcitability and its results. If the poison enters the blood stream it then reaches all motor endings in small quantities, and being by them transported to the cord results in generalized instability. When the tetanus is thus diffused in different animals, different anatomic regions are found to be most susceptible, and in man this seems to be the region of the fifth nerve.

The inefficiency of antitoxin in the curative treatment of tetanus seems to be due to its failure to follow the toxin along the nerve fibers, and hence it does not reach the toxin that is doing the harm. Toxin in the blood, lymph and tissues antitoxin can neutralize and thus lessen subsequent effects, but that which has entered the nerve it can not reach. For example, a rabbit very highly immunized against tetanus toxin so that two drops of its blood contained sufficient antitoxin to neutralize a certain toxic dose, was killed almost as if non-immune when this dose was introduced into the substance of a nerve. The therapeutic conclusion, therefore, is that antitoxin injected subcutaneously in the usual way can neutralize toxin that has not yet entered the nerves, and if administered in sufficient quantity before a fatal dose is absorbed it will prevent death. But if too large a quantity has entered the nerves no amount of antitoxin will check the disease. However, a possible way of reaching the toxin is suggested by these experiments, namely, to inject the antitoxin directly into a large nerve, preferably the one supplying the injured part. This has been done in one case with encouraging results. A man received a large dose of antitoxin after the development of a wound infection, in spite of which eight days later there developed a local, apparently progressive, tetanus. Antitoxin was then injected into the nerve trunk of the injured arm and the symptoms soon disappeared, complete recovery resulting. To be sure, one case of tetanus does not indicate very much, but at least we have offered another possible way of administering antitoxin that may be the long-sought one. There is no doubt that, with the great potential possibilities that lie in tetanus antitoxin, as shown by its very active neutralization of free toxin, there should be some way of getting better results than have been obtained so far. It is to be hoped that the intraneural route will be given the thorough trial it deserves in view of the futility of all other methods of administering antitoxin, except, perhaps, the intraspinal method advocated in this country by Luckett,[2] which is also in the experimental stage.

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[1] Arch. f. exper. Path. u. Pharm., 1903, xlix, 369.

## ALKAPTONURIA.

The characteristics of the urine in alkaptonuria, a condition first described by Boedeker in 1859, are briefly as follows: When voided it has a normal appearance, but rapidly acquires a deep-brown color and ultimately becomes black on exposure to the air. The brown color is greatly intensified by alkalies, its development being accompanied by the absorption of oxygen. The urine reduces Fehling's solution with the aid of heat, the mixture at first being of an inky-black color. It reduces ammoniacal silver-nitrate solutions in the cold. The bismuth test for sugar yields negative results. The urine does not ferment, and it is inactive to polarized rays. Ferric chlorid solution produces a transitory bluish-green color. Linen moistened with the urine turns a deep-brown color on exposure to the air.

The condition is congenital in the vast majority, if not all, of the cases. In a good many cases a history was obtained that the individual's urine in infancy stained the napkins a dark-brown color. Alkaptonuria persists throughout life. That it is rare is demonstrated by the fact that A. E. Garrod states that only 40 cases had been reported up to 1902. Four of these were reported from the United States. It predominates in males. Of the 40 cases, 29 were males and 11 females. The anomaly is likely to make its appearance in two or more brothers and sisters whose parents are normal, and among whose forefathers there is no record of its having occurred. There is only one recorded instance of alkaptonuria having been transmitted from an affected parent to a descendant. This was from a father to a son, and occurred in one of the American cases.

Although Boedeker gave the name "alkapton" to the substance producing the interesting urinary changes characterizing this anomaly, it remained for Baumann and Wolkow, in 1891, to demonstrate that they were due to the presence of homogentisic acid (Homogentisinsäure, $C_8H_8O_4$). This acid has been found in practically all the cases reported subsequent to that date and in the urine of some of the cases previously reported, and is now conceded by all observers to be the cause of the condition. Lead homogentisate is easily obtained by heating the urine nearly to the boiling point and adding five or six grams of neutral lead acetate to each 100 c.c. of urine and allowing it to cool for twenty-four hours. The lead salt crystallizes out in the form of brownish stellar-shaped acicular crystals, watery solutions of which give all the reactions of the original urine. Baumann, Wolkow and Embden believe that the homogentisic acid is derived from tyrosin. They have shown that when tyrosin is fed by mouth to an alkaptonuric nearly the whole of it is excreted as homogentisic acid, although the acid is not excreted in the urine when tyrosin is ingested by a healthy person. Beyond the fact that tyrosin and homogentisic acid are both aromatic acids, the two have nothing in common, and the conversion of the former into the latter involves a shifting of the hydroxyl groups on the benzene ring; in other words, a simultaneous oxidation and reduction within the molecule. Baumann and Wolkow believed that this conversion was due to bacterial activity in the intestinal canal, and suggested that there might be a specific bacterium in such cases. There is no definite experimental evidence to support this view.

A. E. Garrod, who has been much interested in the subject, has probably offered the true explanation of this curious anomaly. As a result of his investigation he finds that a very large percentage of the cases, concerning which he has been able to collect data, occurred in individuals who are the offspring of the marriage of first cousins who do not themselves manifest the peculiarity. He points out that in this respect it resembles albinism and possibly also cystinuria. He has advanced the view that alkaptonuria is a "sport" or alternative mode of metabolism, congenital in origin and persistent throughout life. In favor of this view is the fact that each individual excretes from day to day a very constant amount of the hemogentisic acid, the variations being within narrow limits and easily explained by fluctuations in the amount of proteid food taken from day to day. The average daily excretion of the acid has ranged between 2.6 grams in a child three and one-half years old and 5.9 grams in a young man of eighteen. One would reason, therefore, that alkaptonurics suffer from some inherited metabolic defect, and it seems probable that this defect is closely related to the metabolism of tyrosin.

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[2] Medical News, April 18, 1903.

### SYPHILIS IN ANTHROPOIDS.

In a former number[1] we noted editorially the reported success of Metschnikoff in infecting the chimpanzee with syphilis. Recently Metschnikoff and Roux[2] have given a concise statement of their observations, which are most interesting and which may be of importance in furthering the study of syphilis.

The first chimpanzee, a female, was infected with "syphilitic virus." After twenty-five days a hard sore developed, which Fournier and others were willing to consider of syphilitic nature. A month later about fifteen papules appeared on various parts of the body, and remained until the death of the animal, which occurred fourteen weeks after the inoculation was made. A pneumococcus was cultivated from the heart's blood, and it is supposed this organism gained entrance through a gingivitis and caused death. Before the animal died, however, a second chimpanzee was inoculated on the penis from the now subsiding chancre of chimpanzee number one, and on the thigh with the fluid from a papule. Thirty-five days later an erosion, which grew into a rather large ulcer, appeared on the penis, as well as on the thigh of the second animal. The lesion had reddened and indurated borders, and the neighboring lymph glands were enlarged. Fournier's comment was that "the form of these lesions gave altogether the impression of a superficial chancre of the skin." The enlarged lymph glands persisted, the animal eventually developed a cough and snuffles and died forty-five days after the first symptoms appeared. Supposedly an influenza-like bacillus precipitated death.

The features of this work which suggest syphilis chiefly are the length of the incubation period, the character of the primary sores, and the secondary eruption preceded by the second incubation period, in the case of the first ape. The enlarged lymph glands are also of some significance. Metschnikoff and Roux appear to entertain no doubt that they have produced syphilis in these animals, which are so closely related to man. We must remember, however, that other investigators assert that they have produced primary and secondary syphilis in various animals with this or that organism, which had been cultivated from syphilitic lesions. We have already discussed[3] some of these investigations. The scientific world appears to have accepted none of these results so far. The names of Joseph and Piorkowski are now behind a bacillus which they are strenuously trying to establish as the cause of syphilis. Other competent observers claim that this organism is a constant habitant of the normal urethra. It would now be in order for Joseph and Piorkowski to inoculate a few chimpanzees with their bacillus, as men are not available for the purpose.

The work of Metschnikoff and Roux is significant, but these two experiments, naturally, can not be taken as conclusive. Further work is strongly indicated. The animals are, unfortunately, rare and expensive, difficult to obtain and stand captivity poorly, but they should be forthcoming for this work. Here is an opportunity for French philanthropy.

### PURE MILK IN INFANT FEEDING.

The report[4] of the investigation that has been carried out by Drs. Park and Holt, under the auspices of the Rockefeller Institute for Medical Research, on the use of pure and impure milk among tenement children in New York City, is worthy of careful study. The outcome of the inquiry illustrates the extreme complexity of the conditions surrounding infant feeding and the importance of approaching the matter without preconceived opinions. In some respects the report may be held to emphasize an aspect of infant feeding that has not always been put to the fore in discussions. The importance of carrying out investigations of this character under actual tenement-house conditions rather than in institutions, or among the homes of the well-to-do, is shown by the remarkably concordant character of the results obtained through the co-operation of a considerable number of workers along clinical and bacteriologic lines.

Two or three features of the report stand out so conspicuously as to deserve special mention. The dangers from the use of raw milk in summer for infant feeding have been often insisted on, but they have rarely been so conclusively demonstrated. The milk used for the comparative tests was distinctly above the average as regards bacterial contamination, but in spite of this fact its employment in a raw condition was followed by illness in a large proportion of cases, while the same milk, when given after pasteurization, proved relatively wholesome. The facts presented on this head are so convincing that there seems no escape from the conclusion that the use of heated milk in summer, *irrespective of the initial bacterial content*, must be considered as by far the most important agent in diminishing infant morbidity and mortality. In the course of the investigation some difference was noticed between the amount of illness and mortality among children fed in hot weather with different kinds of milk, i. e., cheap "store" milk, condensed milk, pure bottled milk and breast milk. As already stated, however, the influence of the degree of contamination of the milk was quite overshadowed by the effects of heating. "The effect of bacterial contamination was very marked when the milk was taken without previous heating, but, unless the contamination was very excessive, only slight when heating was employed shortly before feeding."

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[1] The Journal A. M. A., vol. xli, p. 971.

[2] Deutsche med. Wochenschrift, 1903, No. 50, p. 943. Briefly abstracted in The Journal, Jan. 9, p. 135.

[3] The Journal A. M. A., vol. xli, p. 261.

[4] Medical News, Dec. 5, 1903, p. 1066.

Other conclusions of considerable interest rather from the exact data by which they are buttressed than from their novelty, are that, during cool weather, the health of the infants observed was not appreciably affected either by the kind of milk or by the number of bacteria the milk contained. Children over three years of age showed no susceptibility at any season of the year to the use of milk containing even large quantities of bacteria. The bad sanitary surroundings so often found in tenement-house districts are apparently not in themselves a potent factor in contributing to infant mortality, although indirectly they may lead to laxity and indifference in matters of feeding. The authors remark on this head: "It is not, therefore, merely by better housing of the poor in large cities that we will see a great reduction in infant mortality." Great stress is laid on the necessity of educating mothers in the common civilized methods of the care of infants, and the point is made that this must be accomplished by personal association instead of by tracts and leaflets.

In brief, the report indicates that the use of heated milk and the instruction of the tenement-house mother in the ordinary methods of infant feeding as regards quantity, regularity, etc., are the reform measures that at present can be most hopefully undertaken. In its truly objective method of approaching the problem, as well as in its utilization of the co-operative plan of work, this investigation must rank as one of the most important studies yet made of the causes and modes of prevention of infant mortality in cities.

## UNION PRACTICALLY SECURED IN NEW YORK.

We print elsewhere in this issue a telegram announcing the acceptance and adoption by the Medical Society of the State of New York of the report of the conference committee on the union of the society with the New York State Medical Association. This will be glad news for all who appreciate the conditions that have prevailed in the Empire State for over twenty years. It means the solution of a problem that has long been recognized as a difficult one, and puts an end to a strife that has not been a credit to the profession. The thanks of the medical men of the whole country should be extended to those in both organizations, who have in recent years been striving to bring about this happy consummation. To those on the outside who do not know all the intricacies of the problem, it has appeared as though its solution was an easy matter, but the difficulties of the situation were real. As we understand it, the New York State Medical Association will be merged with the Medical Society of the State of New York, and the latter will amend its charter, reincorporate and will adopt the plan of organization recommended by the American Medical Association, subject to minor changes to suit local conditions. A bill has passed the legislature of the State of New York and has been signed by the governor, permitting the state society to enter into this consolidation plan.

## THE DOCTOR IN POLITICS.

THE JOURNAL has always emphasized the importance and advisability of the physician exercising his duties as citizen, and has repeatedly called attention to the influence he can exert for good on the community and profession. It has somehow become almost traditional in our profession that active citizenship and the pursuit of scientific medicine are incompatible. The brilliant examples which show that eminence in medicine is not always inconsistent with the fulfillment of the highest duties of citizenship and with the most exalted functions in the state, have apparently been taken only as the exceptions that emphasize the rule. In an address in our last issue, Dr. C. A. L. Reed takes up this subject in his own forcible and convincing way. He shows that civic duties are not to be neglected, if the physician is to fully meet the demands made on him by the public which trusts in him to guide them on matters relating both to their physical welfare and to the profession of which he is a member. The physician, as Dr. Reed says, is in touch with the public pulse as well as with individual opinions of his fellow-citizens, and he can influence these opinions as no one else can. His power for good, even in the most unobtrusive ways, seems hardly limited. It is not necessary for the physician to be a partisan, though he certainly has a right to his own convictions, but entirely aside from political partisanship, he can influence the public will and legislation on matters on which his special means of information and training qualify him to give expert opinions and valuable advice. If physicians would generally exercise this privilege, using their influence where they can affect public sentiment in the right direction, the results would be something that we have long been wishing for, and many evils that now curse the public and embarrass the profession in efforts for the public's welfare, would be suppressed or completely done away with. We have neglected our privileges too much. It is not, however, by individual work alone that the best results are to be obtained, but through organized effort. Much has been done already even in the desultory way in which medical men have worked for results, and it indicates how much more can be done with systematic and organized effort. We have had lessons enough to show us what can be done if the effort is made in the right way. In the early history of our country, as Dr. Reed points out, the medical men were the counselors, not only in medical matters, but in general affairs of the state. There were 22 physicians among the members of the Provincial Congress of Massachusetts in 1774 and 1775, and 5 physicians—a very respectable percentage of the whole considering the number in the country at the time—were members of the Continental Congress and signers of the Declaration of Independence. Since that time the medical profession has suffered, not only in public estimation, but also in political power, and it is time that we endeavored to bring about a change that will give to us something of the consideration which our forefathers received. This can be done only by organized effort.

### THE FOOTBALL FATALITIES AND INJURIES OF 1903.

Last spring we made arrangements for the collection of statistics regarding fatalities and injuries from the Fourth of July celebrations. The results which we presented were startling, for they showed a much larger fatality and a greater number of injuries than had been thought possible. Last summer we made similar arrangements for gathering the statistics regarding fatalities and injuries resulting from football. While the results of this game are not as bad and the fatalities not as numerous as are those from Fourth of July celebrations, at the same time they are sufficient to call attention to this vigorous sport and to influence one to make the query, "Does it pay?" Almost all our universities and schools now have football teams which engage in series of matches. College pride and college spirit are developed and improved by this game, and honest rivalry in manly sports and athletic exercises is encouraged, all of which is to be commended. A little more than twenty years ago the faculty of a university which now has a distinguished record in football, called before it a student who had been guilty of attempting to introduce to the students the Rugby game, and severely censured him because he was attempting to introduce a brutal sport. A professor of another university was widely quoted not long since as declaring that within the last ten years only twenty-three men had died from the direct results of the game of football in the colleges. If the statement be authentic, 1903 was a most unfortunate year for the devotees of the game. The fatalities and injuries of last year, however, were probably not more numerous or more grave than in recent years. While we do not wish to be considered as opposing legitimate athletic sports, we believe that in this particular game the human wreckage far outweighs the good resulting from three or four months of athletic exercise and training. Our statistics show that there occurred 35 deaths[1] during last year, and over 500 severe accidents to players. Beside these 35 deaths, there were 11 cases of spinal injuries, followed by paralysis, which in most cases seems to have proved permanent, and, consequently, worse than death. Sprains, contusions and scalp wounds have not been included in the list, although reports show that many of these injuries that were at first considered trivial finally resulted seriously. There were 343 fractures, most of them of the bones of the leg and forearm. There were 91 cases of fracture of the clavicle, 19 fractures of the femur and 4 of the skull. It is, of course, impossible to estimate accurately the number of permanent injuries received in these accidents, but when we consider that many of the fractures were compound, and 19 of them of the femur, we must believe that in this class alone the percentage of permanent injuries could not be very low. We can, without exaggeration, say that at least 50 deaths or permanent total disabilities resulted from the football games of 1903.

### THE ALBANY DIPHTHERIA STATISTICS.

The medical profession, and indeed the world at large, are now so thoroughly convinced of the efficacy of antitoxin in the treatment of diphtheria that new statistics can do little more than remind us of the security of our position in regard to the treatment of this disease. Nevertheless, it can not be said that we have yet learned all there is to know about the subject. The health office of Albany, N. Y., has recently, through Dr. Craig,[1] reported the diphtheria statistics of that city for the years 1901, 1902 and 1903. It was attempted to ascertain certain facts concerning all cases of diphtheria reported to the health office by the physicians of the city, whether or not the cases received antitoxin, and the results of the treatment. Unfortunately the day of the disease on which antitoxin was administered was not obtained. During this period there occurred a remarkable decrease in the number of cases from 632 in 1901, 356 in 1902, to 194 in 1903. One can not be certain that this is due to the use of antitoxin alone. Experience tends to show that the virulence and prevalence of diphtheria and other acute contagious diseases may vary greatly in succeeding years. That the antitoxin is of influence in limiting the number of cases can not be doubted seriously however. Cutting short the course of disease in a case, and the injection of a prophylactic dose into one who has been exposed to infection, must exert a potent influence in this direction. That the use of antitoxin should become more general was to be expected. Of the Albany cases, 81.6 per cent. in 1901 and 86 per cent. in 1903 received antitoxin. It is surprising that the percentage of mortality of the total number of cases has remained the same for the three years, about 7 per cent. This is not important, however, since in 1901 about eighty-two patients in every hundred received antitoxin, and in 1903 eighty-six, which slight increase would not affect the percentage mortality seriously. There is another important factor in this connection: A certain number of neglected cases will always be found in the crowded districts of cities, and among Eddyites and faith healers, where physicians are not called at all or not until it is too late; the deaths of such cases help to keep up the percentage of mortality, although the number of cases and ratio of deaths decrease among the more intelligent. One of Dr. Craig's conclusions is that "the medical profession is using mature judgment in the selection of cases for the use of antitoxin, the milder cases being permitted to go on to recovery without the use of antitoxin and the more severe cases, including the mixed infections, are given the benefits of protective inoculation." We are not willing to accept it as the opinion of the physicians of Albany that antitoxin should be withheld from any case of diphtheria, be it ever so mild. Aside from the fact that the danger to the community is lessened by shortening the course of the disease, the interests of the patient require the neutralization of the toxin. One needs only mention the possibility of diphtheritic paralysis to show that the indications for the administration of the antitoxin in liberal amounts are mandatory.

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[1] The following are the names of those who died, with the
states in which they lived: Wilson Ackroyd, James Coneff, Jr., and
W. J. Devlin of Pennsylvania; Jno. Barr, Walter Edmunds, Frank
Franklin, Jno. Houghton and Frank Shanklin of Indiana; Augustus
Becker, Hugh G. Leighton, Wm. Brooks and Robt. Sinclair of Illi-
nois; James Boswell, Chas. Greene and Thornton Wheeler of Wis-
consin; James Collins, J. Johnson and Daniel Meany of Massachu-
an: William Connelly, Jno. J. Dixon, Leon Farley, B. Jeffrey,
McConley, Geo. E. McClurg, Raymond McVeigh and Hugh
een [illegible] York; Joseph Egan of Connecticut; H. Gustovel of
ax of New Jersey; Robert Lewin of Maryland; John
F JOURNAL ta; Jno. Snyder of Iowa; Jno. Witherell of Mis-
sche med. V
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[1] Albany Medical Annals, January, 1904.

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# Medical News.

## ILLINOIS.

**Personal.**—Dr. and Mrs. Carey Culbertson, Piper City, have returned from a seven-months' stay abroad.

**Smallpox.**—A case appeared at Berwyn, Cook County, last week.——Springfield is now free from the disease.——An epidemic is said to be raging in New Athens.

**Hospital Staff Election.**—At the annual meeting, January 19, of the staff of St. Mary's Hospital, Quincy, the following officers were elected: President, Dr. John A. Koch; vice-president, Dr. John K. Reticker, and secretary-treasurer, Dr. F. T. Brenner.

**Canton Epidemic Subsiding.**—Inspectors from the State Board of Health have returned from a visit to Canton, and report that only a few cases of typhoid fever still exist, and that there seems to be no danger of a further spread. About 125 cases have been reported, with 17 deaths. At present the disease is confined to ten dwellings. The local health authorities, aided by the State Board of Health, are taking all measures practicable to put an end to the disease. All wells in the city have been condemned. Every possible effort is being made to cause a disinfection of excreta, and all infected houses will be thoroughly disinfected. The city council has appropriated the funds necessary to carry out the work of inspection and disinfection.

### Chicago.

**New Michael Reese Hospital.**—The committee now announces that it has received subscriptions for more than $200,000 of the $300,000 required to erect a new fireproof building.

**Ancker Not to Come to Chicago.**—It is now reported that Dr. Arthur B. Ancker has withdrawn his acceptance of the position of superintendent of the Presbyterian Hospital, Chicago, and his resignation as superintendent of the City Hospital, St. Paul, Minn.

**Deaths of the Week.**—During the week ended January 23, 517 deaths were reported, 49 less than for the preceding week, and 34 less than for the corresponding week of 1903. The annual death rate was 13.81 per 1,000. Pneumonia caused 106 deaths; consumption, 66, and heart disease, 47.

**New Children's Hospital.**—The Maurice Porter Hospital is to be torn down and replaced by a new building to accommodate sixty children. Mrs. Julia A. Porter has given $75,000 for the work. The present hospital was founded in 1882 by Mrs. Porter as a memorial to her son. At first it had 12 beds, but later 31 beds. The new building is to be a modern fireproof structure, with every facility for the care of sick children. The six requirements of the Children's Hospital Association, which will be specially followed, provide for an observation department, where children are kept two weeks before admission to the wards; an isolation department, laboratory facilities, pure milk supply, bedside and didactic instruction for nurses, and 1,000 cubic feet of air for each patient.

## MARYLAND.

**Railway Hospital.**—The contractors of the Wabash road are erecting a first-class hospital at Little Orleans for the use of the men engaged in tunneling and other heavy work in that section.

**Will Let Well Enough Alone.**—The Medical and Chirurgical Faculty decided at a meeting, January 20, not at this time to agitate the state medical law. Although defective, it was feared that tampering with it by the legislators might render it still worse. Application will be made to the legislature for $50,000 for two years to build a new medical hall, now imperatively needed.

**Registration of Nurses.**—A bill has been prepared for presentation to the legislature by the Maryland State Society of Graduate Nurses, providing for state registration of nurses, twelve members nominated by the society and appointed by the governor to serve as the examining board. The applicant must deposit a fee of $5. Those registered may use title "R.N." The act does not forbid nursing by ordinary nurses.

### Baltimore.

**Rush Medical Club.**—The Rush Medical Club of the University of Maryland will on February 4 celebrate its fifty-fourth anniversary.

**Sewerage Bill Introduced.**—The Baltimore City Sewerage Bill was introduced into the legislature, January 20. It provides $10,000,000 for the construction of the system.

**Smallpox.**—The British steamer *Parthenia* arrived in port last week with two cases of smallpox on board. The men and nurse were taken to Quarantine Hospital, and the ship and contents fumigated. The detention barracks at quarantine are complete. They consist of four wards, each accommodating 100 persons.

**Alumni Meet.**—The General Alumni Association of the University of Maryland held its annual meeting, January 21. An address on "The History of Dentistry and the School of Dentistry" was made by Dr. F. J. S. Gorgas, dean of the School of Dentistry. Dr. Eugene F. Cordell read a Latin university ode. B. Howard Haman, LL.B., was elected president and Dr. Eugene F. Cordell, secretary-treasurer.

**Deaths Reduced.**—There were only 188 deaths last week, 249 having occurred in the corresponding week of 1903; 27 were from pneumonia and 24 from consumption. The annual death rate per 1,000 was 17.70, the colored rate being, as usual, double that of the whites. Pneumonia is unusually and apparently increasingly fatal. A report from one of our leading hospitals shows a mortality of 40 per cent. of late cases.

## MASSACHUSETTS.

**Smallpox on Steamer.**—A case of smallpox was found among the firemen of the S. S. *Pomeranian* on her last arrival at Boston Harbor, and was quarantined on Gallop's Island.

**Physicians Will Inspect Schools.**—The board of health of Malden has appointed five local physicians as special agents to inspect schools and schoolhouses twice each week for the prevention of contagious diseases and the promotion of the health of the children.

**Police as Lodging-House Inspectors.**—The Boston police department has detailed two inspectors to devote their time to a daily inspection of the lodging houses of the city to be sure that the laws are complied with, especially the regulations of the board of health.

**State Hospitals Overcrowded.**—Further evidence of the extreme overcrowding of the state insane hospitals is contained in the annual report of the State Board of Insanity. With a total of 8,610 patients, an increase of 339 in the year, 1,753 are obliged to sleep on beds in corridors and day rooms.

**Limit Water Pollution.**—The Supreme Court has affirmed that the rules of the Metropolitan Water Board are valid in the restrictions they may place on dwellers on the water-shed. The case in question was of one James Dorr, a mill owner at Holden, whose mill polluted a tributary of the Nashua River.

**Many Cases Treated.**—At the quarterly meeting of the Boston Dispensary, it was reported that 6,936 new cases had been treated at the central office and 2,282 visits made outside, an average of 297 cases treated each day. In the districts 3,217 patients received 6,088 visits, making a total number of cases cared for by the physicians of 10,153. A new district has been established in Charlestown.

**Against Antivivisection.**—Protests against the antivivisection bill—house bill No. 174—in the legislature are to be based on the facts that the passage of the bill will prevent boards of health from making necessary experiments; the detection of bubonic plague, glanders, hydrophobia and similar diseases; the recognition of tuberculosis; the testing of disinfectants; the study of serum reactions of typhoid and paratyphoid, and the further investigations of bacteria.

**Mortality and Morbidity.**—During the seven weeks ended January 23 there were reported to the Boston City Board of Health 1,536 deaths, 7 less than for the same period last year and an average weekly mortality of 18.96 per cent. less. There were reported 452 cases of diphtheria, with 34 deaths; 291 of scarlet fever, with 21 deaths; 66 of typhoid fever, with 15 deaths; 1,077 of measles, with 19 deaths; 242 of tuberculosis, with 173 deaths. Pneumonia caused 272 deaths; whooping cough, 6; heart disease, 161; bronchitis, 55, and marasmus, 15; 260 infants under 1 year and 409 under 5 years of age died, while 359 deaths of individuals over 60 years old were reported.

**Death Rate of New England.**—Dr. Samuel W. Abbott, secretary of the State Board of Health, in a paper read before the American Statistical Association in Boston on "The Decrease of Consumption in New England," reported that the mean annual death-rate of New England for the past 50 years is 17.6 per 1,000, of which approximately 10 per cent. has been due to phthisis. The death rate from the latter is distinctly less, in the counties farthest from the seashore. Fifty years ago the mortality among women was fully 45 per cent. greater than that among men. During this period the mortality among both sexes has decreased, and is still decreasing, and now the mortality among women is even less than among men. He attributed the decrease to early diagnosis, better sanitation and more out-of-door life. Deaths from heart, kidney and brain diseases have increased, perhaps because more people survive phthisis, for these deaths are more among older people.

## NEBRASKA.

**Personal.**—Dr. B. O. Young, Lincoln, after a year in East Africa, has settled in Bluefields, Nicaragua.

**Treble Size of Hospital.**—Plans are being prepared for the enlargement of Clarkson Hospital, Omaha, which is to be trebled in size. The work on the new buildings is to be commenced in the spring.

**To Be on Cottage Plan.**—The new hospital for the insane to be erected at Norfolk is to be built on the cottage plan, which, the committee decided, was the most sanitary, desirable and inexpensive plan.

**Medical Society of the Missouri Valley.**—The semi-annual meeting will be held in Lincoln, March 24, under the presidency of Dr. A. D. Wilkinson, Lincoln. A symposium on pneumonia will be a feature of the program.

## NEW YORK.

**Communicable Diseases.**—The board of health of Lockport has closed the public and parochial schools and business colleges, also the theaters. Men will be set at work fumigating all public places and street cars because of the smallpox.——There are 33 cases of scarlet fever at Dunkirk.——Smallpox has abated at North Tonawanda.

**Personal.**—Dr. W. J. Fleming, Troy, has been appointed physician in the department of charities and correction.——Dr. William Hailes, Jr., has been appointed consulting surgeon. Dr. Edgar Van [illegible] surgeon; Dr. Sautter, assistant attending [illegible] Albert Vander Veer, surgeon-in-chief, and [illegible] attending surgeon, in the Albany Hospital.

**Needs of State Hospitals.**—The eleventh annual report of the state charities aid associations has been forwarded to the State Commission in Lunacy. It states that on Oct. 1, 1903, there were in the various state hospitals for the insane, 2,666 patients in excess of the capacity of those institutions. The building operations now under way will provide accommodations only for the overcrowding existing at the present time and make no provision for the future. Estimating the annual increase at 700 for the state more accommodations must soon be made. There are two ways of providing for these patients: First, by enlarging the existing hospitals, and second, by building new hospitals. At Utica, Willard, Hudson River, Middletown, Binghamton, King Park and Manhattan, the accommodations for acute cases are unsatisfactory, and each of these hospitals should be equipped with a reception pavilion. At Binghamton and Gowanda, by acquiring more land, 1,350 more patients could be cared for. In large cities psychopathic or reception hospitals could be built for the curative treatment of the acutely insane or for the preventive treatment of incipient cases, and large hospitals on the colony plan in the country for the acute and chronic cases. The association estimates the requirements for 1904 to be appropriated by the legislature at $6,710,000. It is urged that a larger allowance of milk and eggs for patients be permitted. Cases of pulmonary tuberculosis might perhaps be prevented if the milk and eggs that are now furnished after the patients develop the disease were provided earlier. The per capita cost of food at present is but 15 cents a day.

### Buffalo.

**Hospital Needed.**—Health Commissioner Greene has again petitioned the board of aldermen for a new quarantine hospital. The present hospital is said to be unfit for human habitation. Bonds have been issued and a site selected for the new hospital, and there should be no excuse for further delay.

**Personal.**—Dr. Eugene A. Smith has been appointed surgeon of the Fourth Brigade, N. G., N. Y., with the rank of lieutenant-colonel, vice Dr. Floyd S. Crego, resigned.——Dr. Joseph Burke has been made a surgeon-in-chief of the Lackawanna steel plant hospital at Stony Point.——Dr. William C. Krauss has been elected president and Dr. Vertner Kenerson, secretary, of the Emergency Hospital staff.

**Opticians Not Physicians.**—The Buffalo Academy of Medicine has adopted resolutions on the proposed bill to give opticians medical standing (see The Journal, January 23, p. 255). They call attention to the very decided harm that can be done to patients unless the person who prescribes glasses for them has a knowledge of medicine as well as of optics, and express the sentiment of the academy as unalterably opposed to giving the privilege of the practice of medicine to any persons not qualified for this responsibility by a knowledge of the fundamentals of medicine, to wit, anatomy, physiology, chemistry, pathology, physics and hygiene as demanded by the state examining boards.

### New York City.

**Increases Tuition Fee.**—Columbia University College of Physicians and Surgeons has increased the annual tuition fee from $200 to $250, because of increased cost of instruction. This is in force beginning July 1, 1904.

**Presentation to Lederle.**—The employes of the health department, on January 18, presented to former Health Commissioner Ernst J. Lederle a solid silver tea service, a gold match box and half a dozen porcelain cups and saucers, the presentation being made by Dr. Herman M. Biggs.

**Society Election.**—The annual election of the Medical Society of the County of Kings, held January 19, resulted as follows: President, Dr. John E. Sheppard; vice-president, Dr. James W. Fleming; secretary, Dr. William S. Hubbard; associate secretary, Dr. William C. Woolsey; treasurer, Dr. Onslow A. Gordon; associate treasurer, Dr. John R. Stivers; directing librarian, Dr. James M. Winfield, and censors, Drs. Henry G. Webster, James P. Warbasse, William F. Campbell, William F. Dudley, and Walter C. Wood, all of Brooklyn.

**New Medical Society.**—The East Side Physicians' Association of the City of New York was organized, January 15, with the following officers: Dr. Ignatz M. Rottenberg, president; Drs. Maurice J. Burnstein and Frederic N. Wilson, vice-presidents; Dr. Nathan Friedman, secretary; Dr. Maurice Caspe, treasurer; Dr. Sigmund A. Tarler, chairman of ways and means committee; Dr. William S. Gottheil, chairman of committee on ethics; Drs. Robert Abrahams, Abram Brothers and Max Landesmann, trustees, and Drs. Maurice M. Berger, Julius Solow, Waldemar Dorfman, Pierre A. Siegelstein, and Isidor Ritter, committee on admission.

**Instruction in Special Lines.**—Cornell University Medical College has inaugurated special instruction and lectures by some of the subordinate professors and assistants, who are conducting more or less specialized lines of research. In addition, these lectures will present summaries as well as detailed knowledge of all the advances made in these different branches. As illustrations may be mentioned, in the department of general surgery, Professor Kammerer on "Intestinal Obstruction." and Prof. A. B. Johnson on "The Surgical Disorders of the Breast"; in general medicine Dr. Conner on "The Ductless Glands," and Dr. Camac "The Practical Aspects of Infection and Immunity." These lectures will be delivered before the fourth and third year classes of the college. Some of the subjects, however, are of such general interest that invitations will be sent to all members of the faculty and practitioners who may be interested.

## OHIO.

**Personal.**—Dr. Wilfred J. Taylor, Dayton, has been appointed physician to the Montgomery County Infirmary.——Dr. Francis Alter, Toledo, has gone abroad for a year.

**New City Hospital.**—On January 20 a fully attended meeting was held in the Cincinnati Hospital, consisting of the medical staff, the board of medical advisers, the hospital commission, and the members of the board of public service, to decide on plans for the new city hospital. The consensus of opinion was that the cottage plan in vogue at Johns Hopkins and many of the large European hospitals would be the best.

**Societies and Elections.**—Montgomery County Medical Society.—At the annual meeting the following officers were elected: Dr. John C. Reeve, Jr., president; Dr. Henry S. Kimmel, vice-president; Dr. Wilfred J. Taylor, secretary; Dr. D. C. Sichliter, treasurer; and Dr. Duff W. Greene, censor, all of Dayton. The secretary's annual report showed a total of 278 practitioners, or about one to 480 of the population. There were 34 new registrations in the county during the year.

Cincinnati Society for Medical Research.—On January 21 this society elected the following officers: President, Dr. David I. Wolfstein; vice-president, Dr. A. Knight; secretary-treasurer, Dr. Samuel I. Iglauer.

Dayton Academy of Medicine.—The academy has elected the following officers: Dr. Daniel B. Conklin, president; Dr. William A. Ewing, vice-president; Dr. Matthew Porter, secretary; Dr. William A. Burns, treasurer; Drs. William C. Marshall, Herbert C. Haning and Clifton L. Patterson, censors, and Drs. Edwin M. Huston, Richard S. Gaugher and A. H. Dunham, entertainment committee.

Academy of Medicine of Toledo and Lucas County.—At the annual meeting the following officers were elected: President, Dr. John A. Wright; vice-president, Dr. Charles Betts; recording secretary, Dr. Charles P. Wagar; financial secretary, Dr. Pringle G. Tait; treasurer, Dr. Willis W. Grube; censors, Drs. Herbert E. Smead and William J. Gillette, and member library board, Dr. A. L. Steinfeld.

Clinton County Medical Society.—At the annual meeting, held December 30, the following officers were elected: Dr. Allen T. Quinn, Wilmington, president; Dr. Samuel B. Lightner, Sabina, vice-president; Dr. Eldorado C. Briggs, Wilmington, secretary, and Dr. Rodney T. Trimble, New Vienna, delegate to state society. The society was reorganized under new constitutions in May, 1903, and has received a charter from the state society.

Medical Officers' Association of the Ohio National Guard.—The medical officers of the national guard of the state met at Columbus, January 11, and effected an organization, electing the following officers: President, Surgeon-General Edmund C. Brush, Zanesville; vice-president, Surgeon-Major Fred C. Weaver, Dayton; secretary and treasurer, Surgeon-Major Trevanion V. Dupuy, Dayton, and executive committee, Surgeon-Captains James H. Wright, New Lexington; Sterling B. Taylor, Columbus, and Herrick, Cleveland.

Canton Medical Society.—This society held its annual meeting, January 5, and elected the following officers: President, Dr. David F. Banker; vice-president, Dr. Edward S. Folk; recording secretary, Dr. Charles A. Crane; corresponding secretary, Dr. George F. Zinninger; treasurer, Dr. Frank Da Hinden, and censors, Drs. Charles E. Schilling, Frank W. Gavin, and Edward O. Morrow. The society held its second annual banquet January 8. Dr. Edwin Ricketts, Cincinnati, delivered an address on "Infection of the Biliary Output." About 70 physicians were present.

## CANADA.

**Toronto University Expenses.**—The estimates of Toronto University for the current year have been prepared in readiness for presentation to the Ontario legislature, now in session. They call for an expenditure of $150,663.50, exclusive of the departments sustained by the government.

**Sensible Treatment of Antivaccinationists.**—The Antivaccination League of Toronto interviewed Premier Ross last week and presented their views in favor of making vaccination optional. Premier Ross told the deputation to go before the Provincial Board of Health and try to persuade them to recommend the legislation.

**Ontario Statistics for December.**—The December death rate in Ontario was on a level with the average. There was a total of 2,141 deaths. Contagious diseases numbered: Smallpox, 13 cases, no deaths; scarlet fever, 231 cases, 20 deaths; diphtheria, 473 cases, 71 deaths; measles, 14 cases, one death; whooping cough, 8 cases, 4 deaths; typhoid fever, 120 cases, 24 deaths. There were 146 deaths from tuberculosis.

**The Typhoid Situation in Montreal.**—Typhoid fever was the cause of nine deaths in Montreal during the week ended January 16. The deaths from all causes during that week were 122, an average rate. There are now between 120 and 130 cases of typhoid fever in the Montreal hospitals, and no new cases can be taken into either the General or the Royal Victoria. The epidemic appears to be practically over. Only two new cases have been reported in Westmount during the past four days, this making the total in that suburb 77 since the epidemic started. The Quebec Board of Health sent out an official circular to all Montreal physicians requesting their co-operation in quelling the outbreak.

**Annual Report, Royal Victoria Hospital, Montreal.**—Jan. 1, 1903, there were 188 patients in the Royal Victoria Hospital, Montreal. During 1903, 2,911 were discharged, of whom 1,397 were well, 914 improved, 165 not improved, 293 not treated, and 142 died. There were remaining in the hospital, Dec. 31, 1903, 208. Of the 142 deaths 38 took place within forty-eight hours of their admission. Deducting these the death rate has been 3.57 per cent. In the out-patient department the total number of patients treated was 4,308. The number of visits of these patients aggregated 23,638. The income for the year amounted to $140,368, while the ordinary expenditure amounted to $120,419. The total cost per patient per day was $1.62½.

**Personal.**—Dr. T. J. Moher, assistant superintendent of the Institution for the Feeble-Minded, Orillia, Ont., has been made medical superintendent of the Asylum for the Insane, Brockville, Ont., in place of the late Dr. Murphy.——Dr. Peter H. Bryce, secretary of the Ontario Board of Health, has been appointed inspector of immigration of the interior. He will probably be succeeded on the board of health by Dr. C. A. Hodgetts, who for some time past has been provincial health inspector.——Prof. W. D. Halliburton, F.R.S., professor of physiology in King's College, London, England, delivered a lecture, January 22, to the medical faculty and students of Toronto University, on "Degeneration and Regeneration of Nerves," with lantern slide illustrations.

**Annual Meeting Western General Hospital, Montreal.**—At the annual meeting of the Western General Hospital, Montreal, last week, the reports showed that the number of patients treated during 1903 was larger than ever before. After deducting the cases which terminated fatally within 48 hours of admission, the death rate was only 3 per cent. The report also stated that a new hospital building was becoming more necessary every day. Those treated in the hospital numbered 600; in the outdoor department, 7,560, an increase of 990 over the previous year. The average number of days' stay in the hospital was 18.3. Dr. G. H. Matthewson was elected secretary, and Drs. F. R. England and F. W. Campbell medical representatives on the board of governors.

## FOREIGN.

**Sixth International Congress of Physiology.**—Brussels will welcome this congress Aug. 30 to Sept. 3, 1904. Communications should be addressed to Dr. Slosse, Institute Solvay, Parc Leopold, Brussels, Belgium.

**Decrease of Malaria at Rome.**—The *Riforma Medica* proudly states that the death rate at Rome is now one of the lowest in any city. The mortality from malaria has fallen from 650 in 1881 to 76 in 1901. As the population has increased during this period by 170,000 inhabitants, the mortality quotient from malaria has dropped from 21 to 1 per 10,000 inhabitants.

**Sardou, the Playwright, a Medical Student.**—Victorien Sardou it seems was a medical student at one time, and relates that he and his mates made a special study of hypnotism and hysteria long before Charcot. He believes that the phenomena of hypnotism and hysteria explain all the magic and witchcraft of the ages. His play, "La Sorcière," in which Sarah Bernhardt is starring at present, is based on these memories of his days as a medical student.

**French Congress of Gynecology, Obstetrics and Pediatrics.**—The fourth periodical congress with the above title is announced to convene at Rouen, April 5 to 10, 1904. Professor Richelot of Paris will preside over the general sessions, Guillemet of Nantes over the section for obstetrics, and Kirmisson over pediatrics. The secretary is Dr. A. Martin, 6 Place de la Cathédrale, Rouen; subscription, $4. The congress is open to all physicians, philanthropists, medical students and midwives.

**Chantemesse, the New Inspector-General of the French Sanitary Service.**—Dr. Chantemesse, professor of experimental and comparative pathology at the Paris Faculté de Médecine, has been made inspector general of the sanitary service, in the place left vacant by the recent death of A. Proust. He has for years taken an active part in the campaigns against epidemic diseases, against plague in Spain, cholera in Egypt and Portugal, and typhoid fever in France, either personally or by consultation. Jules Renault and P. Faivre have been appointed inspectors under him.

**Proportion of Deaths to Attendance at Theater Fires.**—The *Gazette Méd. de Paris* states that in a theater panic and fire about one out of every three spectators perishes. This was the proportion at the Brooklyn Theater fire in 1876, with 400 victims; at Nice in 1880, with 65 victims; at the Ring Theater at Vienna in 1881, with 600 victims; at Smolensk in 1883, with 380; at the Opera-Comique at Paris in 1887, with 131; the Exeter Theater in England, with 127 victims, in 1887; at the Oporto Theater in 1888, with 80, and at the Iroquois Theater in Chicago, where 573 perished.

**Discontinuance of Indian Medical Record.**—This journal, published in Calcutta, stops with the fifty-second number of its twenty-fourth volume. It was formerly published by Dr. J. R. Wallace, and since his death the executors of his estate have continued it. They now announce that it is necessary to discontinue. The journal has been the exponent of the Anglo-native medical element, as contrasted with the official service. One of the noteworthy stands it took was in opposition to the for-revenue-only opium report. It was one of the best of our Indian exchanges, and we regret that it is no longer to be published.

**Swedish Medical Association Prize.**—This prize of $270, for 1903, was awarded to Prof. M. G. Blix of Stockholm for his research on the temperature of the muscles. No communications were received in competition for the Alvarenga prize. Among the foreigners elected members of the association during the year were Nicholas Senn of Chicago, N. R. Finsen, B. Bang, I. Pawlow of St. Petersburg, Zuckerkandl, Waldeyer and L. Meyer, T. Rovsing, A. Krogius and several other prominent Scandinavians. The association prize for 1904 will be awarded for some medical theme. Prof. P. J. Wising will resign as editor of the society journal, *Hygiea*, next June.

**Northern Congress of Surgery.**—This congress of the surgeons of the northland will be held at Göteborg, August 9 to 11, 1904. Four questions have been appointed for discussion, with addresses as follows: "Functional Tests of the Kidneys," addresses by T. Rovsing and by J. Nicolaysen; "Treatment of Extra-uterine Pregnancy," addresses by L. Meyer and O. Boije; "Early Operation in Appendicitis," addresses by A. Krogius and F. Bauer, and "Indications for Operation in Affections of Biliary Passages and Pancreas," with addresses by H. Ström and G. Naumann. The latter is the secretary of the congress, his address being: Viktoriagatan 2a, Göteborg, Sweden.

**Admission to International Congresses.**—The national committee for Great Britain has passed resolutions to the effect that international medical congresses shall in future be limited to physicians who apply for membership. Scientists whose names are presented by the national committees may also become members. These were the restrictions adopted at the Paris International Medical Congress, but the Madrid Congress disregarded them and opened its doors to a promiscuous throng. The above resolutions drawn up by the British committee have been forwarded to the executive committee of the approaching International Medical Congress to be held at Lisbon.

**Progress for Women Physicians in Sweden.**—In January, 1901, the women physicians of Sweden presented a petition to the king asking that women be allowed to compete for the various official medical positions, which had hitherto been restricted to male candidates. After long consideration King Oscar has issued a decree, dated Nov. 6, 1903, which grants nearly all the demands of the petitioners. The only medical positions from which they are still excluded are those in the railway service and some minor posts. The decree further states that if a woman in an official medical position marries this step shall be accepted as implying resignation of her position.

**First International Congress of School Hygiene.**—This is to be held at Nuremberg, April 4 to 9. Addresses are to be made on "What Has Ophthalmology Done for the School Children, and What Has It Yet to Do?" by H. Cohn of Breslau; on "The Present Status of School Hygiene in Norway," by A. Johannesen of Christiania; on the "Hygiene and Personal Illnesses of the Teachers from the Standpoint of Their Relations to Their Pupils," by Le Gendre of Paris; on "Organization of the Public Schools According to the Natural Capacity of the Children," by Sickinger of Mannheim; on the "Task and Training of School Inspectors," by Liebermann of Budapest; on "Prevention of Infectious Diseases in Schools," and on "Suicide Among School Children," by Eulenburg of Berlin.

**Baccelli Leaves the Italian Cabinet.**—For two years Baccelli has been minister of the department of public instruction or of agriculture, and has accomplished some notable reforms along various lines while in office. He has now returned to his beloved clinic at Rome, and the occasion was celebrated by his friends with much rejoicing. The legislation adopted by his efforts to combat malaria, pellagra, etc., will have far-reaching effects, as also the legislation he secured to prevent child labor. He loses no opportunity to proclaim his opinion in regard to the necessity for combining medicine and politics, and urges medical men to enter political life. Experienced physicians are far better able to decide many of the questions that press for solution than lawyers or professional politicians, he believes, and deplores the general neglect of these opportunities.

**New German Postgraduate Organ.**—The committee in charge of the semi-official, extensive postgraduate courses now organized in most of the German cities from the central headquarters in Berlin, has founded an organ, the *Zeitschrift f. ärztliche Fortbildung*. E. v. Bergmann and M. Kirchner, with R. Kutner, form the editorial staff. The chief aim of the review will be the publication of comprehensive lectures delivered in the various courses. The first number has appeared, and publishes an appeal from the minister of public instruction calling on those in charge of the courses to pay special attention to training those who attend in the diagnosis and treatment of venereal diseases, and also to impress on them the all-importance of prophylactic warnings and advice to the public, to urge the necessity for avoidance of venereal disease and for its prompt treatment when acquired.

**Anglo-American Medical Association.**—A photograph of the members of this association is reproduced in the *Berlin and Continental Herald*, Dec. 12, 1903, thirty-five members being presented. Among them are many familiar faces from Chicago, New Orleans, and other cities. The association was reorganized in October, with Dr. J. H. Honan, now a resident of Berlin, president; and Dr. J. Cheston King, Atlanta, Ga., secretary and treasurer. Its object is to impart information to the English and American physicians coming to Berlin to study, to direct and advise regarding the post-graduate work in the university, clinics and hospitals, and to give valuable hints and suggestions, the result of the experience of those who have been longer in Berlin. A meeting is held every Saturday night, and an address is usually given by some eminent man, such as Ewald, Hoffa and Oppenheim. Dr. Ewald appears in the photograph mentioned.

**Laboratory for Curie.**—A prophet is not without honor save in his own country, but after other countries do him honor, his own compatriots usually look on him with different eyes. This was exemplified in the case of Ramon y Cajal, whose famous researches were conducted with the most modest resources and means until an international prize was bestowed on him, after which the Spanish government appropriated funds and a special laboratory for his further research. Since one of the Nobel prizes was awarded to Curie and Becquerel, France is heaping honors on them, and has taken steps to supply Curie with a new laboratory. The minister of public instruction has appealed to the parliament for an appropriation to found a new professorship, a chair of general physics, for him. He has declined to be decorated with the cross of the Legion of Honor, which was conferred on him at once, and it is more than probable that he will decline the professorship, as his time is already occupied.

**Alumni Reunion at Mexico.**—The alumni of the National Medical School of Mexico, who commenced their course twenty-five years ago, gathered at Mexico, January 7, for their first reunion. Out of a total of 94 only 34 per cent. are still living, and some of these were unable to attend. In scarcely more than twenty years of professional career death has claimed 66 per cent. As a souvenir of the occasion each wrote in an album some thoughts on the life of the physician. One wrote that "The physician has to carry not only his own burdens but those of other people"; another, "Medicine is most beautiful in theory but horrible in practice"; another, that he longed for a physician who "could cure him of the necessity for curing others." Others wrote on the great contrast between their early ideals of the life of the physician and what they have found it in reality. One commented that the soldier "dies for his country, but the physician lives for it and works that others may live for it too."

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## CONSOLIDATION IN NEW YORK.

### The Society Approves the Plan for Union.

*(By Telegram from Our Special Correspondent.)*

Albany, N. Y., Jan. 26, 1904.

At the first session of the Medical Society of the State of New York, beginning here to-day, the first order of business following President Bristow's address was the report of the committee of conference appointed last year to act with a like committee from the New York State Medical Association looking to the union of the two bodies. The report was an able review of the year's work, including an account of the permissive act which was passed by the general assembly, and approved by the governor, to overcome the legal difficulties in the way of union The report concluded by recommending the adoption of the complete plan of organization of the American Medical Association for the government of the joint body, with only such changes as may be found to be necessary to adapt it to local conditions Dr Bristow had made an earnest plea for unification in his address, and after able addresses of endorsement by Drs Jacobi, Roosa, Potter, McDonald and Park, and without a word in opposition, the report of the committee was adopted with much enthusiasm Representatives of the association are here in cordial co-operation with the society people, and it apparently only remains for that body to act for the union to be completed.

## Correspondence.

### Sugar Metabolism and Diabetes—A Question of Priority.

Chicago, Jan. 22, 1904.

*To the Editor*:—In an able editorial published in a recent issue of The Journal (1903, p 1480) you call attention to Cohnheim's discovery that the pancreas mixed with muscle tissue possesses the power of destroying sugar, and you properly emphasize the fundamental importance of this finding inasmuch as it aids in interpreting the rôle of the pancreas in sugar metabolism and diabetes You also say, "Of course this does not preclude the possibility of a similar combined effect with substances in other tissues of the body where sugar is burned" As a matter of fact, another investigator, working simultaneously with Cohnheim, discovered that pancreas and liver combined also possessed sugar-destroying powers. You lay particular stress in this editorial on the fact that the pancreas alone, or the different tissues of the body alone, can not destroy sugar, whereas the addition of pancreas to different organs probably bestows this power on them, and you say: "Why it had not occurred to any one that it might be the work of the two together is the chief mystery."

I wish to call your attention to two reports of experimental work that I published in 1902 In these I showed conclusively that a mixture of pancreas extract and hemoglobin possesses the power to a marked degree of destroying sugar (and that incidentally in this process the hemoglobin is converted into bile acids and bile pigments, a conversion that takes place only in the presence of sugar) Commenting on this discovery, I say in one of these articles ("Some Experiments on the Formation of Bile Acids and Bile Pigments,' *Phila. Med Jour*, 1902, p 143), "A considerable proportion—of the pancreatic ferments —is secreted internally and is poured into the blood and lymph-stream to perform an important function in intracellular digestion—viz, proteolysis and glycolysis" In the other paper ("An Experimental Investigation into the Causes and Treatment of Diabetes," *Am Jour Med Sci*, 1902, p 669), I say in referring to these experiments, "a determination of the sugar before and after showed that a considerable quantity of the sugar had been destroyed, in other words, trypsin (I use this term for an alcoholic precipitate of pancreas extract) in the presence of hemoglobin, possesses glycolytic powers"

The principle, therefore, of the combined action of pancreas and an albuminoid body in promoting sugar destruction was established at that time, and until proof to the contrary is forthcoming, I do not consider it at all improbable 'that the hemoglobin contained in the muscle and liver tissues employed by the investigators mentioned is the substance that is destroyed by pancreas, while at the same time some sugar is burned up in the process

I am writing you this, anent another very able and very true editorial that you published some months ago, in which you decry the tendency on the part of certain European writers to ignore American contributions to science, and in which you charge them with unpardonable ignorance of our American literature.

Alfred C. Croftan.

### Depressant Drugs and Sudden Death.

Greenville, Ohio, Jan. 22, 1904.

*To the Editor*:—I believe that the reasoning in your editorial on "Depressant Drugs and Sudden Deaths" (The Journal, Jan. 16, p. 177), is at fault when you say that "a portion of the decrease in the number of sudden deaths from heart disease to population, has been ascribed definitely—and with considerable plausibility—to a certain cause," which, in substance, you say is that, owing to steps taken by the Board of Health of New York City to prove that a certain coal-tar product was being adulterated by the addition or substitution of acetanilid, and owing to threatened exposure and prosecution the substitution had abated to the extent of reducing the death rate from heart disease from the ratio of 1.31 in a thousand in 1902 to 1.28 per thousand in 1903. It seems more plausible to ascribe this decrease in mortality to the awakening of the public generally, and of physicians especially, to the fact that all of the coal-tar products are dangerous to life and a menace to health when used indiscriminately as heretofore.

Substitution is held in abhorence by the medical profession, which, ever ready to encourage any legitimate means to suppress sophistication in medicine, should not stop in its research when it has found one adulterated article, but should search with renewed vigor for everything that is likely to be adulterated with anything injurious to health.

It occurs to me that it would be interesting to have the statistics of other cities so that we could study the comparison. In a paper read at the meeting of the American Pharmaceutical Association at Mackinac Island, last August, G. M. Beringer gives us the analyses of 182 samples of this coal-tar product, obtained from seven cities in the United States, and of nine samples obtained from Newark, N. J., not one was adulterated, while of the sixty samples obtained in New York City, 50 were pure, 7 grossly adulterated and 3 contained traces of adulterants Baltimore shows the largest per cent. of adulteration, for out of 45 samples 18 were adulterated, so that accordingly we should find the death rate from heart trouble to be greater in Baltimore than in New York, and in the latter city greater than in Newark If, as the manufacturers assert, more than five thousand druggists of the United States are stocked with a spurious product, how is it possible for any physician who prescribes this article to have any assurance that his prescription will be filled properly?

It would be better for the public if our profession would teach it to look on proprietary medicines generally as being protected by a wilful perversion of law, and an attempt to substitute for the old patent and trademark system, a system of unlimited monopoly, preventing competition, instead of inducing manufacturers to improve methods of manufacture for the purpose of excelling one another in producing the same article of a better quality or at a lower price

Philip Dickes, M D.

### Firm Desires to Purchase Fraudulent Testimonials.

Flint, Mich., Jan. 23, 1904.

*To the Editor*:—I received this morning a letter, of which the following is a copy:

Chicago, Jan 22, 1904

*Dr C. B Burr, Flint, Mich*

*Dear Doctor*:—Your name has been handed us with a few other thoroughly reliable physicians in the United States, and referred to as well known throughout your part of country, and for this reason we are making you the following splendid proposition

We are now ready to furnish to the medical profession a new electric medical bath machine on which we secured patents Sept. 30, 1903 This new therapeutic (sic) instrument is admitted by medical experts to be the best physician's medical battery ever put on the market It was invented by an electric genius, and is no doubt considered the most perfect instrument of its kind ever placed on the market, and we guarantee it in every respect

We are just printing a new catalogue and in it we would like to have a few testimonials from some reliable physicians throughout the United States As we have got but five days before this book goes to press we have decided to give each of these physicians one of these outfits as per enclosed illustration, absolutely free, on receipt of the enclosed testimonial plainly signed in your own hand writing.

On receipt of this testimonial we will ship you one of these physician's outfits absolutely free.

Trusting that you will give this your prompt and immediate attention, and thanking you in advance for this favor, we remain,

Respectfully yours, U. S. STANDARD ELECTRICAL WORKS.
Per F. J. Osius, Pres.

Enclosed with the letter was the following, which it was hoped I would sign and return:

November 17, 1903.

*U. S. Standard Electrical Works, Chicago, Ill.*

*Gentlemen:*—I am pleased to recommend your Electric Bath Machine. I have used one for the last few weeks and will say that I could not afford to be without it. Please ship me another by return express and greatly oblige, Very truly yours,

Enclosed also was a cut of the machine for which the lying endorsement was requested. I shall respond to the communication as follows:

*United States Standard Electrical Works:*

Your letter of the 22d inst. is received. I am perfectly astounded by it. Is it possible that you expect a *reputable physician* who *has never seen your bath* to sign a letter dated Nov. 17, 1903, stating that he recommends it and that he has "used one for the last few weeks?" You say that on receipt of a testimonial for which the form is prescribed, one will be sent without cost. The proposition seems to me wholly corrupt and I think it my duty to give it publicity in THE JOURNAL of the American Medical Association.

C. B. BURR.

Very truly yours,
C. B. BURR.

## Organization in Iowa.

IOWA CITY, IOWA, Jan. 22, 1904.

*To the Editor:*—In behalf of and in justice to the medical profession of Iowa, I submit the following corrections. Dr. McCormack, in his "Plea for Unification" (THE JOURNAL, Jan. 16, 1904, p. 167), uses the following language:

> It is true that in nearly every state where this plan of organization has been proposed, as was natural and to be expected, academic and purely theoretical objections have been made to some feature of it, usually to the council, the house of delegates or to coincident membership. Such objection has always been made in advance of a trial of them, *and they have been confined almost entirely to states which have been practically without organization heretofore. Conditions in Iowa illustrate this point well.*

I have italicized what seems to me a totally unjust and probably unintentional use of Iowa as an example, which, as it stands, is open to interpretation the furthest possible from the truth of the case. We assert, for the medical profession of Iowa, that it has been not only well organized, but that in proportion to the population it has been the best organized and the most harmonious in its associations of any state in the Union. Its state society numbers 805 members, all (except 15, with more than thirty years' membership) having entered as delegates from county societies. Iowa has 543 members of the American Medical Association, a number exceeded only by New York, Pennsylvania, Ohio and Illinois. Nor are the objections in Iowa of the nature alleged by Dr. McCormack; there has been no objection to the principles of the original report of the committee on reorganization, as made by Dr. McCormack, at St. Paul in 1901. There have been and are objections to the validity of the alleged adoption of the "standard" at Sioux City, April 17, 1903, and to the "standard" as representing the principles of the St. Paul report. C. M. HOBBY.

## Fifteenth International Congress of Medicine.

Dr. John A. Wyeth, New York City, has sent us a letter which he has received from Prof. Miguel Bombarda, secretary-general of the International Congress of Medicine to be held at Lisbon in 1906. Dr. Wyeth expresses the hope that the unpleasant experiences of our delegates at Madrid will not deter us from taking an interest in the Lisbon congress. He suggests that it would be well for THE JOURNAL of the Association to inaugurate this movement by printing at this time this invitation.

A translation of the letter referred to is as follows:

LISBON, Dec. 22, 1903.

*Sir and most honored confrère:*—At the last international congress at Madrid, Lisbon was designated as the place of meeting of the Fifteenth International Congress of Medicine, and the medical profession of Portugal, appreciating the great honor conferred on it, accepted with pleasure the decision of the representatives of the various countries gathered at Madrid and set about the work with the greatest enthusiasm. The executive committee and the committee on organization have already been appointed, and the various sections of the congress now being formed will complete the organization. Following the precedence of former congresses the executive committee has decided to establish in all the countries which will send delegates to Lisbon, subcommittees or bureaus of information, being convinced that with the hearty co-operation of the profession the Fifteenth Congress will achieve the end for which this international scientific gathering was intended, viz.: the advancement of medical science. For this reason I appeal to your aid in organizing the bureaus of correspondence and of information in the United States.

MIGUEL BOMBARDA, Secretary-General.

# Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

### PASTORAL MEDICINE—THE BUSINESS SIDE OF PRACTICE

CHICAGO, Dec. 22, 1903.

*To the Editor:*—I would like to see in your Minor Comments Department what you think in regard to the addition to the medical course in colleges of lectures in what might be called pastoral medicine analogous to those on pastoral theology in divinity schools. The latter covers the relation of the minister to his flock collectively and individually, to his fellow clergymen, to church property, to types of human nature, etc., covering a number of things relating to the success of his work. It seems to me that we who are students ought to have the benefit of lectures by an experienced man with a broad outlook on human nature and with the ability to handle the questions relating to the physician's getting on in the world, having granted a reasonable scientific equipment. Such things as location, buying a practice, relations to other physicians, to politics, requirements for office, location of office, how to make a professional call or how not to make one, are a few of the things that might be covered. It seems to me the young physician might be headed off from a great many blunders in this way.

E. P. S. MILLER ('05, P. & S.).

ANSWER.—Our correspondent has touched on a matter that has always seemed to us of great importance. The first duty of a medical school is, of course, to impart a thorough and scientific knowledge of medical matters. But it might well go a little further and instruct the young physician regarding the right way to put his knowledge to practical use as a means of earning a livelihood. To be sure, each man has to work out his own salvation. No amount of teaching can tell him how or when to make a professional call. He learns by experience; or if he have not the right make-up he never learns, always blunders and is a failure. But many fundamental principles as to the practice of the art could be imparted to students, that would tend to broaden their views as to their life work, make it appear more as a profession and less as a trade, save them from many serious mistakes and perhaps save them from that disastrous termination of many a brilliant career, the degradation into a sordid money maker. At least an elective course, consisting of lectures by a competent man, should be given in every college, to afford to the student the opportunity of learning concerning these matters that are of such practical importance. In addition to the subjects referred to by our correspondent such topics might be considered as the ethics of medicine, fees, that curse "commissions," medical societies, medical literature, malpractice, the physician's recreation, etc. Some colleges provide one or more lectures, but none, so far as we know, recognizes the importance of such a course of lectures.

### DOES INGESTED FORMALDEHYD HARDEN THE LIVING TISSUE?

WEBB CITY, MO., Jan. 13, 1904.

*To the Editor:*—Considering the well-known effect of formaldehyd hardening tissues, the question of the action of the drug on the epithelium of the kidney tubules following the administration of remedies containing the drug suggests itself to me. Has there been any report showing the effect, as found postmortem, on the kidneys of patients who have, during life, taken urotropin, formin, cystogen or other preparations containing formaldehyd?

L. C. CHENOWETH.

ANSWER.—So far as we know, there have been no reports to show that urotropin, etc., cause any permanent changes in the kidneys. The exact place in the urinary tract where urotropin forms formaldehyd does not seem to be known definitely. It may be that the formaldehyd does not have the chance to act as such on the cells of the kidney. Then, again, the dilution may be so great that while the antiseptic properties are still apparent, yet no cellular and reactive changes are produced. Investigations on persons who have habitually used foods, etc., preserved by formaldehyd may be of value. The Department of Agriculture experiments on humans under Dr. Wiley's supervision may add some facts. Coleman (*Med. News*, Aug. 29, 1903.) has collected and reported a number of cases of temporary toxic effects, strangury, hematuria, gastric and intestinal disturbance, etc., following the use of urotropin, which he attributes to idiosyncrasy, interference with the usual disposition of the formaldehyd in the body, or in the liberation of an unusual amount of formaldehyd. In all the cases the discontinuance of the drug was followed by rapid disappearance of the symptoms, which were altogether exceptional. Toxic effects from the drug as ordinarily given are very rare.

### INFANT DEATH RATE AND SCHOOL HYGIENE

SIOUX CITY, Jan. 21, 1904

*To the Editor:*—1. Can you give me the death rate of children from birth to at least three years old, especially where the cause is mostly due to feeding? Or what proportion of all children born die before the third year is reached? 2. Can you refer me to some article on ventilation of public schools? MILTON DAILY.

ANSWER.—1. The average death rate of children, as given in Newsholme's "Vital Statistics," varies from about 100 to 300 per thousand births in the different countries during the first year of life. The "Vital Statistics Report" of the United States Census Bureau gives the death rate for the year 1900 in the first year of life as 103.2; and 85.3 added to this number during the second and third years make a total of 278.5 under three years of age per thousand of population. The registration area in this country, however, is so small and the vital statistics so imperfectly reported through the greater portion that this can not be taken as the actual average for the whole. The death rate of children under three years of age would probably average not less than 250, and possibly higher for the first three years of life. The fact that the registration areas include the large cities where infant mortality is high must be considered.

2. We know of no recent article especially devoted to school ventilation; various works, like that of Morrisson's, published in 1887, are to be had through any book seller. But the subject is treated of in general works on hygiene like Chapin's "Municipal Sanitation," Egbert's "Hygiene," etc.

### LITERATURE ON ILLEGITIMACY.

CHICAGO, Jan. 23, 1904

*To the Editor:*—In answer to the inquiry of J. E. D. of Detroit (THE JOURNAL, Jan. 23, p. 256), I beg leave to state that the most satisfactory treatise on illegitimacy is the little book of Leffingwell (E. H. Colegrove, 65 Randolph St., Chicago. Price, $1.00.) He shows, much to the surprise of the casual observer, that illegitimacy prevails in certain sparsely settled, mountainous districts of Scotland to a greater extent than elsewhere in the world. His explanation, that the inhabitants are the descendants of pirates and that hereditary influence is the etiologic factor, has never been satisfactory to me. I have always maintained, and my views have been pretty generally upheld by sociologic students of experience, that there is a more likely explanation. The absence of prostitutes in these districts, the inadequate knowledge of sex relationship, which unfortunately is almost universal, and the misdirection, through faulty or deficient education, of the domination of the sexual instinct on the part of the male, are, to my mind, factors of chief importance in the consideration of illegitimacy.

DENSLOW LEWIS.

### THE ETHICS OF REPORTING AN IMAGINARY OPERATION AS HAVING BEEN PERFORMED.

HUMBOLDT, TENN., Jan. 18, 1904.

*To the Editor:*—Is a physician justified, under any circumstances, in writing an article for a medical journal in which he asserts that he has performed an operation, giving technic and results, when in fact he has performed no such operation, but has only conceived the idea that the operation would be applicable to the condition stated? Please publish this with your reply in THE JOURNAL for the benefit of any who may be concerned. Yours in the interest of science and truth. SIDNEY THOMPSON, M.D.

ANSWER.—We do not know to what article our correspondent refers, but his question seems to be answered in the asking.

### TRAINING SCHOOL FOR MALE NURSES.

DR. N. N. SALLUME, Toledo, Ohio, inquires where there is a hospital or other institution where male nurses are trained.

## Marriages.

GIOVANNI B. BRUNO, M.D., to Miss Marie Lagorio, both of Chicago, January 18.

HENRY CLAY GEMMILL, JR., M.D., Indianapolis, to Miss Helen Bringhurst of Philadelphia, January 12.

HUGH C. BEAZLEY, M.D., Bowling Green, Ky., to Miss Carrie B. Redd of Hopkinsville, Ky., January 20.

SAMUEL L. EDWARDS, M.D., Memphis, Tenn., to Miss Lillian Urbansky, at St. Marys, Kan., January 6.

HOWARD DAVIS LEWIS, M.D., Baltimore, to Miss Katherine Gray Blackshire, at Baltimore, January 14.

U. S. GRANT SPARKS, M.D., to Miss Kate Garuch, both of Mantua, N. J., at Camden, N. J., December 19.

GEORGE ARCHIBALD HOGAN, M.D., Bessemer, Ala., to Miss Myra Clark Gaines of Northport, Ala., January 27.

JAMES H. BANKS, M.D., Lincoln, Ill., to Miss Maude M. Wendell of New Holland, Ill., at Lincoln, January 13.

ROBERT W. COCHRAN, M.D., Madison, Ind., to Miss Leonora Livingstone Howard of Johnson City, Tenn., January 12.

## Deaths.

### EDMUND ANDREWS, M.D.

Dr. Edmund Andrews, scientist, pioneer in surgery and in medical education in the west, and student to the end of his life, died in Mercy Hospital, Chicago, January 22, aged 79.

EDMUND ANDREWS, M.D.

He was born in Putney, Vt., April 22, 1824, and there and in Rochester, N. Y., received his preliminary education. He was from the first devoted to botany and geology. At the age of 17 his family moved to central Michigan, and he entered the University of Michigan, Ann Arbor, where his work in mathematics and natural science was especially notable. He was also honored by being made president of his college literary society, and was graduated with the degree of B.A. in 1849.

He entered the office of Dr. Z. Pitcher, Detroit, in 1850, and attended lectures in the Medical Department of the University of Michigan. At the end of his first year he was made demonstrator of anatomy; received his degree in medicine in the following year, 1851, and was then made lecturer in comparative anatomy. By honesty, care and system he dispelled the common apprehension regarding dissections while occupying this position. He received his degree of master of arts in 1852 from the university, and two years later was made professor of comparative anatomy. He was one of the founders of the Michigan State Medical Society, and in 1853 began the publication of the *Peninsular Journal of Medical and Collateral Sciences.*

In 1855 he was appointed demonstrator of anatomy in Rush Medical College, but resigned after one year and devoted himself to practice, especially to surgery. Soon after his arrival in Chicago he aided in founding the Chicago Academy of Science, and was its first president, serving several times in this capacity. A short time after this he, in connection with Dr. Horace Wardner, established a charity dispensary, and a private dissecting room, where he taught a class in anatomy. He was one of the founders of the Chicago Medical College, and was its first professor of surgery. This latter position he held actively or emeritus up to the time of his death. He was also surgeon to the Mercy Hospital. When the Civil War broke out he was made surgeon of the First Illinois Light Artillery, but after a year was obliged to resign by reason of illness incurred in the service. He was the first to make and keep complete medical records of the sick and wounded in war, and his records were accepted by the surgeon general and formed the basis on which records of that office have since been kept. He was a pioneer in practical antisepsis, and was the first man in the west to employ Lister's method after its exploitation.

He was for many years a member of the American Medical Association, Michigan State Medical Society, Illinois State Medical Society, the Chicago Medical Society, the American Association for the Advancement of Science, the Chicago Academy of Science, Wisconsin Academy of Science, etc. For a number of years he was a trustee of Northwestern University. He contributed largely to medical literature. He collected and published statistics of 92,815 cases of ether anesthesia and 117,078 cases of chloroform anesthesia, showing the relative risk in the use of these two agents.

He was a lifelong member of the Presbyterian church, and a constant contributor to religious periodicals, his chief topic being the harmony of science and religion.

Although he had suffered from enlarged prostate and cystitis for two or three years he attended to his professional work until the day before he went to the hospital for operation. A vesical calculus was discovered January 13, and was removed three days later. He reacted well from the operation, and had been able to move about the room for three days when, on January 22, he had a sudden attack of vertigo, and was assisted back to his bed by the nurse. He had embarrassed respiration, which was relieved by oxygen, but, notwithstanding all efforts, he died in about an hour.

Outside of his work in medicine, Dr. Andrews was a geologist of repute, and his work on the early glacial history of North America has been very largely quoted. His papers on geologic subjects have been published in the Proceedings and Transactions of the Chicago Academy of Science and in Silliman's Journal. Dr. Andrews was one of America's great surgeons, not only by reason of his skill, but also because of his quick perception and adoption of improved methods. Dr. Andrews was married in 1850 to Miss Eliza Taylor of Detroit, who died in 1875; in 1877 he married her sister, Mrs. Frances M. Barrett, who survives him. He leaves two daughters and three sons, two of the latter, Drs. E. Wyllys Andrews and Frank T. Andrews, being of the medical profession.

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**Nels N. Glim, M.D.** Hamline University, Minneapolis, 1898, a member of the American Medical Association, and secretary of the Ashland County (Wis.) Medical Society, died at Ashland, January 15, from general peritonitis following acute perforative peritonitis, for which operation was performed January 5.

**William H. Ireland, M.D.** University of Pennsylvania, Philadelphia, 1867, some-time president of the Camden city and county medical societies, and a life member of the state medical society, died at his home in Camden, N. J., from pneumonia, January 12, aged 60.

**Jefferson Williamson, M.D.** Cleveland Medical College, 1852, one of the founders of Wapello County Medical Society, died at his home in Ottumwa, Iowa, January 16, aged 76. The county society, at a special meeting, passed resolutions of eulogy and regret.

**Henry Plummer, M.D.** Medical College of Ohio, Cincinnati, 1861, died suddenly in his office in Harrodsburg, Ky., January 20, from heart disease. He had served as president of the Central Kentucky Medical Society and of the Mercer County Medical Society.

**Pollock F. Hyatt, M.D.**, died at Jersey Shore, Pa., January 17, aged 68. During the Civil War he was surgeon of Carver Hospital, Washington, D. C., and for five years prior to the Spanish War he was United States consul at Santiago, Cuba.

**Frederick Follett Comstock, M.D.** Bellevue Hospital Medical College, New York, 1873, health officer of Ilion, N. Y., for several years, died at his home in that village, January 12, from Bright's disease, after an illness of six weeks, aged 54.

**Alexander Douglas Bryden, M.D.** Indiana, 1898, assistant surgeon, U. S. Army, in the Spanish-American War, of Honesdale, Pa., died at the home of his brother in Carbondale, Pa., January 13, from nephritis, after a long illness, aged 35.

**Hugh Hendrixon, M.D.** Cleveland Medical College, 1870, of Columbus, Ohio, a member of the American Medical Association, died at Grant Hospital in that city, January 18, from cancer of the stomach, aged 70.

**Edmund S. Hanna, M.D.** Jefferson Medical College, Philadelphia, 1853, for many years a practitioner of Pittsburg, Pa., died at his home in East Orange, N. J., from apoplexy, January 17, aged 76.

**Benjamin G. Dysart, M.D.** Jefferson Medical College, Philadelphia, 1859, formerly brigade surgeon in the Confederate service, died at his home in Paris, Mo., January 17, from pneumonia, aged 70.

**Sydney Smith Thomas, M.D.** Toronto University Medical College, 1868; Bellevue Hospital Medical College, N. Y., 1872, died at his home in St. Anne, Ill., January 20, from uremia, aged 66.

**Samuel T. Purcell, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1866, died at his home in Glasgow, from hemorrhage of the lungs, January 7, after a short illness, aged 80.

**Francis Woodley Harrell, M.D.** University of Maryland School of Medicine, Baltimore, 1879, Baltimore, died in New York City, January 19, from double pneumonia, aged 44.

**Schuyler C. Elliott, M.D.** Homeopathic Hospital College, Cleveland, 1886, died at his home in Kansas City, Kan., from paralysis, after a short illness, January 14, aged 39.

**John W. Martin, M.D.** College of Physicians and Surgeons, Baltimore, 1890, died at his home in Unionport, Ohio, January 10, from tuberculosis, after a long illness, aged 40.

**Royal H. Hardman, M.D.** National Medical College, Washington, D. C., 1897, died suddenly at his home in White Earth, N. D., January 12, from heart disease, aged 36.

**A. Tennyson Sanders, M.D.** Medical College of Ohio, Cincinnati 1897, died, January 11, at his home in Leesburg, Ohio, from Bright's disease, after a lingering illness.

**Robert E. Jenkins, M.D.** Louisville Medical College, 1898, died at his home in Belmont, N. C., January 9, from typhoid fever, after an illness of two weeks, aged 28.

**E. R. Manning, M.D.** Missouri Medical College, St. Louis, 1897, local surgeon of the Texas Central Railway, died at his home in Stamford, Texas, January 14.

**John H. Ginley, M.D.** Homeopathic Hospital College, Cleveland, 1862, died at his home in Coopersville, Mich., January 18, after an illness of one week, aged 75.

**Rachel A. Dickey, M.D.** Woman's Medical College of Pennsylvania, Philadelphia, 1867, of Philadelphia, died in New London, Md., January 3, aged 79.

**James Porter Henry, M.D.** Transylvania University, Lexington, Ky., 1843, died at his home in Independence, Mo., January 13, after a short illness, aged 84.

**John Frank Lyngar, M.D.** Missouri Medical College, St. Louis, 1875, died at his home in Greenfield, Mo., January 14, from heart disease, aged 60.

**George Perry Cook, M.D.** New York, 1846, once assistant physician at Bloomingdale Asylum, died in Brattleboro, Vt., January 3, aged 83.

**H. K. De Armond, M.D.**, of Huntersville, N. C., died at the home of his daughter in Mount Gilead, N. C., January 10, from paralysis, aged 82.

**John H. Scally, M.D.** College of Physicians and Surgeons, Baltimore, coroner of Baltimore County, died at Towson, January 21, aged 33.

**Joseph Marshall Staunton, M.D.** Geneva (N. Y.) Medical College, 1857, died at his home in Charleston, W. Va., from uremia, aged 84.

**Lycurgus A. Dickson, M.D.** Jefferson Medical College, Philadelphia, 1855, died at his home in Desha, Ark., January 19, from paralysis.

**Harvey B. Godfrey, M.D.** University of Minnesota, College of Medicine and Surgery, Minneapolis, 1902, of Black Duck, Minn., died recently.

**Joseph C. Ridings, M.D.** St. Louis Medical College, 1872, of Cairo, Mo., died in an epileptic seizure at Kansas City, Mo., January 15.

**Ernest S. Foster, M.D.** Washington University School of Medicine, Baltimore, 1869, died at his home in Louisburg, N. C., January 11.

**Margaret G. Coleman, M.D.** Penn Medical University, Philadelphia, 1858, died at her home in Williamsport, Pa., January 9, aged 82.

**Henry C. Ahlborn, M.D.** New York Homeopathic Medical College and Hospital, 1866, died at his home in Boston, January 9, aged 79.

**Simeon Deming Hart, M.D.** Ohio Medical College, Cincinnati, 1844, died at his home in Marietta, Ohio, January 21, aged 85.

**Frederick Kuithan, M.D.** University of Berlin, Germany, 1853, died, January 14, at his home in Nauvoo, Ill., aged 70.

**Charles P. White, M.D.** Howard University, Washington, D. C., 1898, died at his home in Richmond, Va., November 16.

**Samuel D. Coffin, M.D.** Miami Medical College, Cincinnati, died at his home in Whittier, Cal., December 25, aged 77.

**Thomas J. Ketchum, M.D.** Castleton (Vt.) Medical College, 1847, died recently at his home in Pittsford, Vt.

**John K. Patterson, M.D.** Jefferson Medical College, 1868, died at his home in Philadelphia, January 14.

**John M. Kauffman, M.D.**, retired, died suddenly, January 11, at his home in Winchester, Va., aged 70.

**Perry McElvain, M.D.** Illinois, 1877, died at his home in Alto Pass, Ill., Nov. 13, 1903.

### Death Abroad.

**F. Jolly, M.D.**, director of the clinic for nervous and mental affections at Berlin, died there, January 4, aged 59. Death was due to perforation of an aneurism into the pericardium, in the midst of apparent health.

## Miscellany.

**Von Behring's Research on Milk for Infants and Prevention of Tuberculosis: Correction.**—In the abstract on page 277 with the above title in THE JOURNAL of Jan. 23, 1904, the reference to previous communications from von Behring should have read: See previous articles in THE JOURNAL, xl, pages 1178 and 1266, and xli, pages 814 and 994.

**Some Effects of Tobacco.**—J. A. Henton White reports several cases in which the poison from smoking produced symptoms which were concentrated on either the respiratory, the cardiac, or the alimentary system. These exaggerated symptoms all occur in a modified form in seasoned and seasoning smokers who exceed their dose. They also all point to there being such a condition as hereditary incapacity to smoke. In subjects whose alimentary canal is upset, the pain is described as being of a peculiar grinding character. Neuralgia of the thoracic and humeral varieties is another symptom, produced especially by Havana cigars, whether these symptoms are due to a neuritis or a more central affection is disputed—possibly both may occur together or separately.—*Birmingham Medical Review.*

**Cataract from Iodin Intoxication.**—Dr. G. Corda of Pisa describes, in the *Annali di Ottalmologia*, xxxii, 5-6, 1903, a case of intoxication from the use of potassium iodid taken on account of a tendency to obesity. The patient was a mechanic, 43 years old, always robust, and the amount ingested in the course of seven days was only 1.5 gm. The third day he noticed pains in the soles of the feet, extending into the legs, and by the seventh day he was affected with lachrymation, photophobia and spasmodic closure of the lids, with a cataract-like formation in both eyes, like a semi-transparent disc in the center, which explained the dimness of vision accompanying the blepharospasm. On suspension of the drug the symptoms rapidly subsided and vision was normal again by the end of a week or two. [In the case of cataract formation after the use of naphthalin, reported in THE JOURNAL, xxxix, p. 926, 1902, the zonular cataract did not subside after the suspension of the drug, but persisted with vision much reduced.—ED.]

**Dangers from Lightning.**—The *Gazette Méd. de Paris*, in an editorial, October 27, discusses the loss of life from lightning in recent years and prophylactic measures. The annoyance from the rain during a thunder storm is a concrete evil, while the danger from lightning is problematic, consequently individuals will probably continue to seek shelter under trees in the future as in the past, notwithstanding the warnings of the profession. But at least they can scatter and not all huddle under one tree. The human body is a good conductor for electricity, and this attraction, plus that of the tree, is increased by the mass of bodies grouped at one spot. Another point to be borne in mind is to refrain from bringing farming implements, guns, swords, etc., under the same tree under which the bearer is sheltered. In any event they should not be retained in the hand. It is a familiar experience that four-footed animals are injured more severely by lightning as a rule than bipeds, human or others.

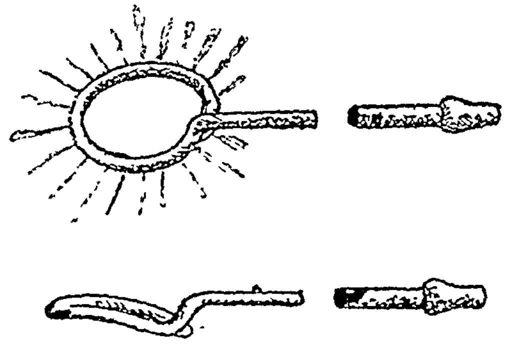
**Transient, Relative Aortic Insufficiency.**—Popoff has observed a number of cases of insufficiency of the aortic valves accompanied by weak and accelerated heart action with a tendency to aneurismatic dilatation of the aorta, in which the symptoms subsided and even entirely disappeared as soon as the heart action was regulated and the dilatation of the aorta diminished. In the *St. Petersb. Med. Woch.*, xxvii, 45-7, he says the insufficiency may be of the valves or of the ostium, and may be transient or chronic, the former the precursor of the latter unless cured. It is extremely important to be able to differentiate the transient form and institute proper treatment. The inconstancy and changeability of the sounds must not mislead the clinician suggesting a pericarditis or other affection. Treatment must be directed to the underlying arteriosclerosis and the cure of the tendency to aneurismatic dilatation, as also of the conditions which have entailed extra work on the heart, bronchial affections causing severe coughing, etc., gastrointestinal autointoxication, constipation, leading to upward pressure of the diaphragm and efforts in defecation, and all factors that bring over-fatigue of mind or body, or cause disturbances and weakening of the heart action, congestion in the aorta, etc.

**Non-Surgical Treatment of Rupture of the Uterus.**—Privat docent D. Popoff advocates leaving to Nature the task of repairing the rupture and describes two cases treated on this principle. The necessity of transporting the woman to a hospital is thus avoided. Both his patients were about 32 years old and working women, multiparæ. The rupture was complete in each case and was treated by immobilizing the uterus by pressure on the abdomen, forcing it down and thus favoring healing of the rupture. In one case iodoform gauze was inserted in the vagina and in the other a strip was worked up behind the point of the rupture to prevent prolapse of the intestines and omentum, with care not to allow any of the gauze to interpose between the lips of the wound. In order to avoid manipulations in the abdomen he was obliged to perform decapitation of the fetus in one case. The patients were dismissed quite restored to health, the twenty-ninth and thirty-first days. The healing proceeded without fever and without any therapeutic measures in the first case; in the other there was slight temperature the seventh day only, and a few hot douches were given on account of a plastic exudate noted on the tenth day. Klien states that the mortality was only 25 per cent. in 12 cases of rupture in the posterior wall which he has collected, while it was 60 per cent. in 15 cases of rupture of the anterior wall, 49 per cent. in 35 cases of lateral, and 40 per cent. in 5 of almost circular rupture. The length of time that has elapsed before treatment is commenced is an important factor for the prognosis of the cases operated on, but this can usually be disregarded in case of non-operative treatment. If the operation is undertaken in the first two hours the results are most favorable; after this period the mortality is twice or thrice as high. His communication in the *Allg. Med. Ct.-Ztg.*, lxxii, p. 440, is a careful study of the entire subject.

**Improved Technic of Extracting Foreign Bodies from the Brain.**—Dr. G. Holzknecht of Vienna, the expert for medicolegal *x*-ray cases, announced at his local medical society, June 19, that he has devised a method by means of which a foreign body in the brain can be extracted as easily as a pebble can be taken out of a glass of water. He remarks that fifty different methods of locating foreign bodies in the brain have been published, but none to date have proved infallible. By his method the patient is examined with two Roentgen tubes, one under his head as he lies on the operating table, and one at the side. After the foreign body has been carefully located with the first tube a small flap of periosteum and bone is cut and raised, care being taken to have this flap made at the most accessible point where such a flap and the following procedures will do the least injury. The patient is then arranged so that the shadow of the foreign body falls in the exact center of the flap. A pair of special forceps are then mounted in the "harpoon forceps" and applied to the skull in such a way that the shadow of the forceps falls in the center of the flap as a mere point, thus coinciding with the shadow of the foreign body. The instrument is then inserted into the brain on this same axis, to the point where the foreign body is supposed to lie, its progress controlled by the shadows cast by the second Roentgen tube, which is lighted up for the purpose. He has found that with a good technic it is possible to see in this way shot or fragments as small as 1 mm. in diameter, and with a little practice, to feel the contact of the forceps with the foreign body. The instrument is inserted on the path which the foreign body must follow in being extracted, and if the foreign body is not wider than the diameter of the narrow forceps no further damage is done.

**Silicosis.**—Dr. George T. McWhorter, Riverton, Ala., delivered an address before the faculty and students of the Medical Department of the University of Alabama, at Mobile. The Mobile County Medical Society was also invited, and many members attended. The subject was "Silicosis," and the paper described an epidemic of the disease among the workers in a factory near Riverton, where pure, white silica is reduced to an impalpable powder for use in the arts, especially for the glazing of fine porcelain. Every object within the building and within a large radius outside was covered with the white dust. Trees, shrubbery and grass seemed covered with snow. From a tall chimney intended to carry the dust away a cloud arose that resembled white steam, and trailed away into the distance, depositing the microscopic, gritty particles in every direction at the veering of the wind. In this dusty atmosphere twenty-six working people were employed. Within two years sixteen were dead and two more in bad health, with symptoms similar to those of the fatal cases. The history of the remaining eight is unknown. Dr. McWhorter saw ten of the fatal cases, and was credibly informed that the others were similarly affected. He stated that there was no necessity for the murderous process that had proved so fatal at that place, as there was a wet process which absolutely removes all danger. Silica is not poisonous in any sense of the term, but its particles, however small, are too irritating to delicate mucous membranes for permanent contact to be wholesome. Tuberculosis was not present in any of these cases, though the irritated bronchial membranes would have provided a favorable nidus for the tubercle bacilli had they been present in the atmosphere. Riverton is not a town, but merely a postoffice, with a few stores and residences at long intervals, and its other conditions aid in rendering a tubercle infected atmosphere almost impossible. There were no night sweats or hectic fevers, no hemorrhages or other symptoms of tuberculosis.

**Continuous Irrigator for Treatment of Ophthalmia Neonatorum.**—Prof. A. Galiani of Salerno, Italy, thinks that the ravages of this affection are due in many instances to inadequate treatment. He believes that the eye should be cleansed every fifteen to twenty minutes in the first acute stage, and he has invented a little apparatus for the purpose. As seen by the illustration it is a loop of silver tubing, perforated around the edge and shaped like the edge of an artificial eye to fit deep into the conjunctival culs-de-sac. It is easily inserted into the eye and the swollen lids hold it firm. A rubber bulb is filled with physiologic salt solution and the connecting tube attached to the projecting end of the silver tube. By compressing the bulb the fluid is all forced out into the eye. It escapes where the lids are slightly lifted by the entering tube. The rubber tube and bulb are then removed and the silver tube left in place all day, the irrigations being repeated every fifteen to twenty minutes. A bayonet catch fastens the rubber tube and the parts together. Every two hours he substitutes a weak solution of phenic acid for the salt solution. The presence of the tube in the eye does not cause any irritation and does not interfere with external application of tepid compresses. In the evening the silver tube is taken out and sterilized by boiling. After two or three days the swelling of the lids subsides, the secretion is materially diminished and the infant commences to open its eyes. The tube is then discarded and 2 per cent. silver nitrate instilled morning and night. The use of this continuous irrigator will certainly prevent damage of the cornea if applied in time, but if first seen too late the irrigator should be used until the secretion has nearly entirely subsided. He concludes his description of the apparatus in the *Annali di Ottalmologia*, xxxii, 7-8, 1903, by recommending it particularly for diplococcus conjunctivitis with lesions of the cornea.



**The Painful-Point Theory and Treatment of Nervous Gastro-Intestinal Disturbances.**—Dr. Cornelius of Meiningen proclaims that in every case of purely nervous gastro-intestinal disturbances it is possible to discover one or more peripheral points which are painful on pressure and which explain the syndrome observed. He has been able to cure them by massage of these painful points, and also to induce the disturbances by manipulation of the painful points during an interval of calm. Pressure on these painful points may induce a nervous diarrhea in certain subjects, hemorrhage from hemorrhoids, or severe gastro-intestinal disturbance. In treatment he seeks for these painful points in the interspaces and over the abdomen, and when found he massages and manipulates them until they cease to be painful, when the troubles they have been causing will also disappear. He differentiates the painful point from an inflammatory process by the response to the application of cold which soothes the latter but increases the irritation in the purely nervous cases. Cornelius read a summary of his views at the last Naturforscher Congress, and his communication is published in full in the *Klinisch-therap. Wochft.*, Nos. 35 and 41, 1903. He has established seven laws that govern these painful points, including the law that when the pain from a point radiates in a certain direction another painful point will be discovered at the end of the radiation. Also that mechanical treatment of a painful point will invariably banish its sensitiveness and with it the pain which emanates from it. The paroxysms of pain which manifest themselves at these painful points may be the result of any one of a number of stimuli originating within or out of the organism and not necessarily a pathologic irritation. He attributes the painful points to some induration or cicatrix left by some external or internal affection, which injures or compresses the nerve. The nervous strain of our civilization tells in time on these points of lessened resistance. Massage at these points restores them temporarily or permanently to normal and they no longer interrupt the course of the nerve current. Treatment should aim to soothe the over-excited nervous system as a whole and to mechanically smooth out the "knots" in the nerve.

# Book Notices.

The Practice of Obstetrics. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in Cornell University Medical College. With 1,221 Illustrations, Many in Colors. Cloth. Pp. 111. Price, $6. Philadelphia: P. Blakiston's Son & Co. 1903.

This book is the most pretentious work on obstetrics issued in English in recent years; in many respects it is encyclopedic in character. From Edgar's long experience as a teacher, and his originality in producing many of our best models and devices for practical obstetric pedagogy, we might expect to find much of his inventive genius exemplified in his book. Its scope is broad; the refinement of classification under appropriate headings so extensive that it may well serve as an invaluable reference volume for the practitioner. We feel that so much is embodied within its pages that it is not so suitable for student reading as other smaller text-books on the same subject. The volume is divided into ten parts and an appendix; each part is divided into numerous subdivisions, which again are divided by many subheadings. The subheadings offer a ready means of reference, and in nearly all instances unquestionably enhance the clearness of the subjects. We would call attention to certain topics, however, which are, to our mind, injuriously affected by the classification before us. In the part devoted to "Physiological Labor" we find "Occiput Posterior" discussed under the subdivision of "Vertex Presentations"; under "Pathological Labor," subdivision "Faulty Position," we find "Persistent Occiput Posterior"; again, in the part devoted to "Pathological Labor," under the caption of "Faulty Attitude," we find the discussion of brow and face presentations, and Naegele and Litzmann's obliquities; under "Fetal Dystocia from Faulty Position," we find "Persistent Mentoposterior Position." We think this arrangement implies too strongly that the several forms are distinct obstetric entities, while in reality they are but aberrancies from the normal mechanism for the several presentations. This interferes considerably with the sequence of thought. We believe that a complete exposition of the subjects of occiput posterior, brow, face, etc., more lucidly and more comprehensively could be included under their appropriate headings. In the same manner we feel that perineal lacerations should receive their operative consideration in direct sequence to the discussions of their cause and prophylaxis. While we dissent to the arrangement in parts, too high praise can not be accorded to most of the chapters—the handling of the subjects is judicious, practical, and with the conservatism needed in a work for the general practitioner and student. We can not too strongly commend the careful scientific discussions of the following subjects, which are yet eminently practical: the diagnosis of pregnancy, the calculation of the probable date of confinement when data are wanting, which is germane to the sections dealing with fetometry. The section on cephalometry includes the methods of Ahlfeld, Perret, Dubois, Müller, and the use of the Roentgen ray, which are adequately stated, and, so far as known, have not collectively appeared in American text-books on obstetrics. The investigation of the pregnant and parturient woman by palpation, mensuration, auscultation and inspection is fully given. The complete elucidation of the subject of pelvimetry very appropriately is given under the routine examination of the pregnant—to relegate this most important subject to the consideration of contracted pelves implies that such measurements are essential only in dystocic conditions, whereas their true value may be adduced by the obstetrician only when he uses pelvimetry as a routine. The discussion of obstetric surgery is fully represented by all the modern operative procedures; the technic for each operation is fully described. The book is replete with illustrations, most of which are new and truly illustrative of the text. Many of the cuts are accompanied by a schematic drawing which depicts in detail the companion picture. These are interspersed freely through the volume, but are especially instructive in the purely clinic illustrations, as are also those showing the details of the mechanisms of labor. A very few cuts might well be dispensed with in succeeding editions, e. g., pictures of the containers of chlorid of lime and baking soda; the representation of an ordinary glass catheter which well could be replaced with a picture of the details of an aseptic catheterization; *en' passant*, it would be well to call attention to the grave danger of the use of a glass catheter during labor. As this book is a work pre-eminently for collateral reading, its value would be greatly enhanced if a full reference list of the literature were appended in subsequent editions. The work of the illustrator has been unusually good, as is the typographical make-up; the binding, however, is wretchedly poor, a serious fault in a reference book, which this is supposed to be.

Aromatici e Nervini. Nell'Alimentazione. I Condimenti, L'alcool (Vino, Birra, Liquori, Rosolii, ecc.); Il Caffè; Il Thè; Il Guarana; La Noce Di Kola, ecc. Sull'Uso Del Tabacco da Fuma e da Fiuto. By Dott. Adriano Valenti, Dell'Instituto Farmacologia Della R. Universita di Pavia. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1904.

This is another of the convenient little Hoepli manuals; it appears to cover its subject of neurotic drugs and beverages fairly well. The larger portion of it is given to the subject of alcohol, on which the author's opinions are conservative. He remarks that it is not a direct food, but is a systemic poison, but that in its milder diluted forms it is of use. He would, however, forbid or restrict its use by women and youths. Other substances are also treated in more or less detail, and the work reviews the physiology of aromatic and nervine drugs in a general way. To one familiar with Italian, it will be a convenient little reference work. A curious fact is that the author has apparently not got hold of Atwater's researches, though he quotes Chittenden, and the book, therefore, is not absolutely up to date, but in other respects it seems to be a satisfactory treatise for its compass.

A Manual of Surgical Treatment. By W. Watson Cheyne, C.B., M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. Burghard, M.D., M.S. (London), F.R.C.S., Teacher of Practical Surgery in King's College, London. In Seven Volumes. Volume VII. The Treatment of the Surgical Affections of the Rectum, the Liver, Pancreas and Spleen, the Genito-urinary Organs, the Breast and the Thorax. Cloth. Pp. 559. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

Volume VII completes a very extensive work, previous volumes of which have already been mentioned in these columns. This volume, whose field is outlined above, is one of the best of the series. It follows the general plan of dealing chiefly with the subject of treatment and the methods described are those which the experience of the authors approves. Special attention is given to details of after-treatment. A complete index of the work would have been a very desirable addition. As it is, one must consult the index of each volume until the subject sought is found. The work abounds in practical matter, and is one of which the authors may well feel proud.

A Compend of Pathology, General and Special. A Student's Manual in One Volume. By Alfred Edward Thayer, M.D., Professor of Pathology, University of Texas. Second Edition, Containing 131 Illustrations. Leather. Pp. 711. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1903.

This work is a second edition of two previous compends on pathology by the author, and includes a new chapter on the nervous system and several additional illustrations; a general revision has also been made. The treatment of the subjects is, naturally, brief, but the illustrations are numerous and the text is generally good. In a few instances, however, the definitions are rather brief, and might have been bettered in some respects; for instance, the author speaks of dementia paralytica as a "peculiar cortical lesion associated with gradual loss of memory," which gives a somewhat erroneous idea of the subject. Taken altogether, the statements are fairly clear. The make-up of the work, with its flexible binding and gilt edges, is excellent.

The Fifth Annual Report of the Indiana State Board of Medical Registration and Examination for the Year Ending Dec. 31, 1902. Cloth. Pp. 270. Indianapolis: Wm. B. Burford. 1903.

The Indiana board has issued its official register of physicians, together with its state laws and a summary of the laws of other states. The book is well arranged, and seems to contain all the information that can be asked on the subjects. It is a state document, published under authority, and may, therefore, be considered official. It has evidently been compiled with great care, and is a valuable reference work not only for Indiana physicians, but also for medical journals and others who have to do with the questions of medical registration and education outside of the state.

How to Attract and Hold an Audience, A Popular Treatise on the Nature, Preparation and Delivery of Public Discourse. By J. Berg Esenwein, A.M., Lit. D., Professor of the English Language and Literature in the Pennsylvania Military College. Cloth. Pp. 272. Price, $1.00. New York: Hinds & Noble.

The art of oratory and public speaking is one which the most of us think we can acquire without special care or training. How much we are mistaken in this many of us have to realize when we come to the actual trial. This little work aims to be suggestive, and the advice given is for the most part safe and judicious. The work will be of value to anyone who intends to engage in public speaking either as an amateur or in a professional way, and especially if only to meet an occasional call.

Doctor Joseph Leidy; A Portrait. Etched by James S. King, Newark, N. J. Engraved Surface 13½x16 Inches. Limited Edition of 150 Copies. Printed on Imperial Japan Vellum Paper and Signed by the Artist. Price, $15. Philadelphia: William J. Campbell.

The above is a very excellent reproduction of a portrait etched by King, and is well worthy of a place in any physician's office. The portrait represents the highest type of such work. Dr. Leidy was one of the leading figures among medical men of this country during the early and middle years of the nineteenth century, and left a name that was revered by all who knew him or his work, and such will be glad of an opportunity to obtain such an excellent portrait of him as is here presented.

Nurses' Guide to Surgical Bandaging and Dressings. By William Johnson Smith, F.R.C.S., Principal Medical Officer, Seamen's Hospital, Greenwich. Cloth. Pp. 167. Price, $0.75. Philadelphia. J. B. Lippincott Co. 1903.

The size of this book is such that it can be put in the dress pocket (if nurses have such), but with the size of print it contains a large amount of information, much of which seems likely to be useful and valuable to nurses. The illustrations are instructive and the text is clear. Some of the information seems rather superfluous.

The Four Epochs of Woman's Life. Maidenhood, Marriage, Maternity, Menopause. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," Fellow of the New York Academy of Medicine. With an Introductory Note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Cloth. Pp. 247. Price, $1.50 net. Philadelphia, New York, London: W. A. Saunders & Co. 1903.

Dr. Galbraith has fairly satisfactorily treated this difficult subject as it may be described advantageously to lay readers. Her advice is practical and the book is to be recommended.

# The Public Service.

## Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Jan. 23, 1904:

McCulloch, C. C., Jr., Reynolds, Fred. P., Woodson, Robt. S., Hallock, H. M., Newgarden, Geo. J., Straub, Paul F., Stark, Alex. N., Lynch, Charles, and Kulp, John S., captains and asst.-surgeons, ordered to report in person to Major Wm. H. Arthur, surgeon, president of examining board for promotion, Army Medical Museum building, Washington, D. C., about March 14, 1904, for examination for promotion.

Chamberlain, W. P., asst.-surgeon, relieved from duty at Cabana Barracks, on withdrawal of troops from Cuba, and ordered to Manila, P. I., for duty.

Bevans, Jas. L., asst.-surgeon, relieved from duty at Morro Castle, Santiago, Cuba, on withdrawal of troops and ordered to Fort Barrancas, Fla., for duty.

Kirby-Smith, R. M., asst.-surgeon, relieved from duty at Fort Barrancas, Fla., and ordered to Manila, P. I., for duty.

Hansell, H. S., asst.-surgeon, relieved from duty at Fort Monroe, Va., and ordered to Manila, P. I., for duty.

Shockley, M. A. W., asst.-surgeon, having reported at San Francisco, en route to Manila, P. I., is assigned to temporary duty at Post Hospital, Presidio of San Francisco.

Stiles, Henry R., asst.-surgeon, order relieving him from duty in the Division of the Philippines, is revoked.

Woodson, Robert S., asst.-surgeon, granted two months' leave of absence about February 1.

Patton, I. W., asst.-surgeon, granted thirty days' leave of absence.

Enders, William J., contract surgeon, has been granted two days' leave on completion of duty at Fort Delaware, Del., before proceeding to his new station, Fort Morgan, Ala.

Baird, William T., contract surgeon, has been granted two months' leave of absence from Fort Bliss, Texas, to take effect about February 1.

## Navy Changes.

Changes in the medical corps of the Navy, week ending January 23:

Moore, A. M., surgeon, retired, detached from the Naval Recruiting Station, Chicago, and ordered home.

Wilson, G. B., surgeon, detached from the *Wabash* and ordered to the Naval Torpedo Station, Newport, and to additional duty in attendance on naval and marine officers.

Gardner, J. E., surgeon, ordered to the *Wabash*.

Lumsden, G. P., surgeon, detached from the Naval Torpedo Station and ordered to the Naval Recruiting and Marine Recruiting Stations, Chicago.

Wentworth, A. R., surgeon, detached from the *Albany* and ordered to the *Solace*.

Crandall, R. P., surgeon, detached from the *Wisconsin* and ordered to the *Oregon*.

Guest, M. S., P. A. surgeon, detached from the *Oregon* and ordered to the *Albany*.

Webb, U. R., asst.-surgeon, detached from the *Annapolis* and ordered to the Naval Station, Cavite, P. I.

Bishop, L. W., asst.-surgeon, detached from the Naval Hospital, Yokohama, Japan, and ordered to the *Annapolis*.

McClanahan, R. K., asst.-surgeon, ordered to the Asiatic Station via steamer sailing from San Francisco February 1.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 22, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, Jan. 3-10, 3 cases.
District of Columbia: Washington, Jan. 9-16, 1 case.
Georgia: Darien, Jan. 15, 2 cases.
Illinois: Jan. 9-16, Chicago, 5 cases; Danville, 7 cases; Freeport, 1 case, imported.
Indiana: Evansville, Jan. 9-16, 4 cases.
Massachusetts: Lawrence, Jan. 9-16, 1 case.
Michigan: Grand Rapids, Jan. 9-16, 1 case.
New Hampshire: Nashua, Jan. 9-16, 1 case.
New Jersey: Trenton, Jan. 9-16, 7 cases.
Ohio: Jan. 8-15, Cincinnati, 3 cases; Cleveland, 1 case; Dayton, Jan. 9-16, 1 case.
Pennsylvania: Jan. 9-16, Johnstown, 1 case; Philadelphia, 58 cases, 24 deaths; Pittsburg, 8 cases, 3 deaths; Reading, Dec. 11-18, 1 case; Williamsport, Jan. 2-16, 2 cases, 1 death.
South Carolina: Charleston, Jan. 9-16, 4 cases.
Tennessee: Jan. 9-16, Memphis, 19 cases; Nashville, 2 cases.
Wisconsin: Milwaukee, Jan. 9-16, 34 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Dec. 26-Jan. 2, 6 cases, 1 death.
Brazil: Pernambuco, Nov. 15-30, 33 deaths; Rio de Janeiro, Dec. 6-20, 124 cases, 63 deaths.
Canada: New Brunswick, McAdam, Jan. 9, 1 case.
Great Britain: Dec. 26-Jan. 2, Birmingham, 1 case; Edinburgh, 3 cases; London, 4 cases; Manchester, 3 cases; Newcastle-on-Tyne, 1 case; Bradford, Nov. 21-Dec. 5, 1 case; Glasgow, Dec. 27-Jan. 8, 92 cases, 9 deaths.
Netherlands: Amsterdam, Jan. 2-9, 4 cases.
Russia: Moscow, Dec. 5-12, 1 death; St. Petersburg, Dec. 12-26, 58 cases, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Dec. 6-20, 1 case, 1 death.
Jamaica: Kingston, Dec. 26-Jan. 2, 1 case, 1 death.
Panama: Panama, Jan. 2-10, 1 case, 1 death.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Dec. 6-20, 38 cases, 28 deaths.
India: Calcutta, Dec. 12-19, 15 deaths.

CHOLERA.

India: Calcutta, Dec. 12-19, 28 cases.
Turkey in Asia: Kerbela, Dec. 12, 50 cases daily.

# Medical Organization.

## Florida.

Duval County Medical Society.—At the recent annual meeting, this society reorganized on the standard plan, and elected the following officers: Dr. Robert H. McGuiness, president; Dr. Edward N. Liell, vice-president, and Dr. Jay H. Durkee, secretary and treasurer, all of Jacksonville.

## Illinois.

Ottawa (La Salle County) Medical Society.—This society reorganized, at its annual meeting, January 17, on the standard plan, and elected the following officers: Dr. Edmund W. Weis, president; Dr. James N. Downs, vice-president, and Dr. William A. Pike, secretary.

## Kansas.

Crawford County Medical Society.—This society was organized on the standard plan at Pittsburg, January 7, with an initial membership of 25. The following officers were elected: President, Dr. E. Orlando Sloan, Pittsburg; vice-president, Dr. Andrew J. Dodds, Fleming; secretary, Dr. Hugh B. Caffey, Pittsburg, and treasurer, Dr. Asbury C. Graves, Pittsburg.

### Maryland.

Progress.—County medical societies in affiliation with the Medical and Chirurgical Faculty of Maryland, which is the state society, have been formed in all but four of the counties. It is proposed to complete very shortly the work in these counties.

### Mississippi.

Jones County Medical Association.—Physicians of the county met at Ellisville and organized this association, with the following officers: President, Dr. Sidney O. Smith, Ellisville; vice-president, Dr. Henry G. McCormick, Laurel, and secretary and treasurer, Dr. Troy M. Sexton, Laurel.

### South Dakota.

South Dakota (Ninth District) Medical Society.—The physicians of the Black Hills district of Western South Dakota met at Lead, January 18, and organized on the standard plan, with the following officers: Dr. Adelbert H. Bowman, Deadwood, president; Dr. Charles W. Hargens, Hot Springs, vice-president; Dr. Alfred G. Allen, Deadwood, secretary; Dr. Frank S. Howe, Deadwood, treasurer, and Drs. G. Hayward Coburn, Deadwood, William W. Torrence, Deadwood, and John W. Freeman, Lead, censors.

## Society Proceedings.

### CHICAGO MEDICAL SOCIETY.

*Regular Meeting, held Jan. 20, 1904.*

The President, Dr. R. B. Preble, in the Chair.

### SYMPOSIUM ON DIETETICS.

#### The Dietetics of Atonic Dilatation of the Stomach.

Dr. Fenton B. Turck read this paper, in which he divided the mechanical work of the stomach into (1) distention with food; (2) expulsion, and (3) relaxation. He illustrated how increased tension or resistance, under some circumstances, causes atony and dilatation as the result of prolonged overwork and exhaustion of the gastric muscle, etc. In determining the exact regimen of dietetics in atonic dilatation, all symptoms and conditions must be subordinated to the one central indication, namely, the restoration of the exhausted gastric muscle; this effort is not only for the nutrition of the patient, but for the prevention of bacterial growth and the resulting toxins which produce many of the grave symptoms. It may be necessary to lessen the total amount of food for a period, and undernourish the patient, thus giving rest to the diseased organ at the expense of the whole organism. The gain here is twofold: First, food is better digested, and, second, it is not robbed of its nutritive value by bacterial growth.

Theoretically, a liquid diet is most advantageous; practically, finely divided solid food is best, properly prepared, with appropriate amount of liquid, sufficient to aid the stomach to macerate the mass and inject it into the intestines.

In connection with diet, lavage is often of value, as are also galvanic and faradic electricity, general baths, exercise and drugs.

#### Diet in Hyperchlorhydria.

Dr. B. W. Sippy, after describing the condition and its symptoms said that in the treatment of the condition diet is all-important; but etiology must be taken into account in each case. The following causes were mentioned: Hasty eating, improperly prepared food, overeating, certain ill-defined disorders of the nervous system, nervous shock, worry, fatigue, ulcer, alcohol and tobacco.

Fortunately, by close attention to diet alone most cases may be satisfactorily treated. The diet should fulfill the following indications: First, mechanical, chemical and thermal irritation of sensory and secretory nerves of the stomach by food and drink must be reduced to the minimum. Second, food should contain a liberal quantity of albumin to combine with the excessive hydrochloric acid. Third, the diet must be sufficiently nourishing. Fulfillment of indications is simple. All foods should be taken in a state of fine subdivision, and great care given to thorough mastication. Meat should be scraped or finely teased apart. Potatoes and all vegetables should be given in as near purée form as possible. Pickles, potato salad, fried potatoes, coarse nuts, radishes and similar coarse articles; also coffee, spices, sharp condiments, mustard, pepper, vinegar, acids and alcoholic drinks; also hot and cold food and drink should be avoided. The diet should be a mixed one. In the beginning of the treatment a liberal quantity of albumin in the form of lean meat should be given, because it is non-irritating and combines a maximum quantity of hydrochloric acid. Fat in the form of butter and cream is well tolerated, and tends to reduce the quantity of acid secreted. Because the excessive acidity quickly inhibits the action of the ptyalin, the starches should be restricted moderately at first or given in dextrinated form, as zweibach or toast. The following plan may be adopted in most cases with success: For a man weighing 160 pounds, during the first week or ten days one-third pound of rare steak, well cooked, veal, mutton, lamb, chicken, or turkey; sixty grams of toast or zweibach, a glass of milk and cream, equal parts; an ounce of butter, and, if desired, a soft egg or a hard-boiled egg grated for each of the three meals a day. If constipation is present, stewed apples, prunes or figs may be added to the diet. As a rule, little discomfort aside from a slight fullness is experienced. A powder of calcined magnesia and sodium bicarbonate, equal parts, ʒss, may be given after meals, at the time discomfort appears. A gain of two and three pounds will usually be recorded during the first week. The diet is then enlarged. Rice, oatmeal, well-cooked vegetable purée, stale bread may gradually be substituted for toast, and after four or five weeks a normal diet may be resumed. The patient should be instructed to avoid certain-named articles, and at the first intimation of an attack the restricted diet should be resumed for a few days.

#### Dietetics in Diabetes.

Dr. A. C. Croftan's paper on this subject will appear in The Journal.

#### Dietetics in Bright's Disease.

Dr. Arthur R. Elliott confined his discussion to a consideration of the most important recent advances in this field of research. Among substances excreted with difficulty in nephritis are urea, inorganic sulphates, creatinin, urine pigments, hippuric acid, phosphates and, under certain circumstances, water. He therefore excludes, on account of urea and inorganic sulphates which they contain, all proteid foods over and above the amount necessary for purposes of systemic nutrition; on account of creatinin, meat extracts and broths; on account of urine pigments, foods containing hemoglobin. On account of phosphates, he advises that calcium carbonate be given in medicinal doses several times daily, when the patient is taking milk freely, in order to arrest the phosphoric acid in the bowel, when it remains in combination with calcium. On account of the hippuric acid which they contain, he excludes certain green vegetables, cranberries and fruits containing kernals (prunes, plums, etc.).

On account of uric acid and alloxin bodies, he excludes all glandular organs used as foods, i. e., kidneys, liver, sweetbreads; also coffee and all malt beverages. Alcohol is also forbidden, save for medicinal purposes.

Milk still remains the staple article of diet in acute nephritis. The more nearly the disease approximates the acute form, the more exclusively should milk be used as the chief source of proteids. Exception is taken to exclusive milk diet in acute nephritis, owing to the poverty in iron, and the large quantity (three to four liters) necessary to furnish the nutritive calories needful for systemic purposes. It is advised, therefore, to enlarge the milk regimen by the addition of simple farinaceous foods and modify the milk by the addition of sterile cream in the proportion of one to four of milk. Of this mixture, one and one-half to one and three-quarters liters a day is allowed the patients with acute nephritis. As convalescence progresses, the diet is gradually extended. Full normal diet should not be permitted until all signs of nephritis have disappeared in the urine. Exclusive milk diet is inapplicable to the treatment of chronic nephritis, owing to the nutritive deficiencies and unfavorable influence on pulse tension. During the stage of dropsy in acute nephritis water is one of the substances excreted with difficulty by the kidneys. As the case improves, the fluids may be increased.

In chronic interstitial nephritis the vegetarianism of some clinicians is to be condemned, on account of its bulk, nutritive deficiencies, and high content of water. Meats are a necessary part of the diet in this disease, and it is a matter of indifference whether white or red meat is taken. We must, nevertheless, strictly confine the amount of proteid food within certain fixed limits, corresponding to 100 grams of albumin. It should never be forgotten that every patient with interstitial nephritis also has heart disease, and that high tension and cardiac failure are constantly menacing elements. Consequently the simple rules of cardiac hygiene, of which moderate sized meals and limitation of fluids are among the most important, must be enforced.

## Therapeutics.

**[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]**

### Herpes Zoster.

Brodier, according to an abstract in *N. Y. and Phila. Med. Jour.*, recommends the following general and local treatment of herpes zoster: The eruption should be protected from friction by means of ointments, powders or alcohol dressings. The affected areas may be painted with picric acid or silver nitrate solutions. As an ointment to relieve the pain and to act as a protective, one of the following combinations is recommended:

| | | | |
|---|---|---|---|
| ℞. | Acidi borici | gr. xv | 1 |
| | Pulv. amyli | | |
| | Zinci oxidi, āā | ʒss | 2 |
| | Liq. petrolati | ℥ss | 15 |

M. Ft. unguentum. Sig.: Apply locally; or:

| | | | |
|---|---|---|---|
| ℞. | Cocainæ hydrochlor. | gr. iii | 20 |
| | Liq. petrolati | ʒvi | 24 |

M. Ft. unguentum. Sig.: Apply locally.

After opening the phlyctenules, a simple aseptic powder may be dusted on thickly and a bandage dressing applied, renewing it daily without washing the lesion. If the vesicles become infected the following antiseptic powder will be of value.

| | | | |
|---|---|---|---|
| ℞. | Acidi borici | | |
| | Iodoformi, āā | gr. lxxv | 5 |
| | Pulv. amyli | ℥i | 30 |
| | Zinci oxidi | ʒiii | 12 |

M. Sig.: Apply locally. If the pain proves to be troublesome one-third of a grain of the cocain may be added to one of the foregoing. In aged individuals, according to the author, the pain caused by herpes is sometimes agonizing. Under such circumstances the following pill is advised internally:

| | | | |
|---|---|---|---|
| ℞. | Ext. hyoscyami | | |
| | Ext. stramonii | | |
| | Ext. belladonnæ, āā | gr. 1/10 | 006 |

M. Ft. pilula No. i. Sig.: One such pill four times a day. The insomnia, if present, may be relieved by moderate doses of chloral hydrate or the bromids. Gelsemium, aconite or acetanilid may be given internally to relieve the severe neuralgia which frequently follows herpes.

### Radium in Treatment of Cancer.

According to W. J. Morton, in the *International Jour. of Surgery*, radium can be applied in a practical manner in the treatment of carcinoma of the throat or uterus. Radium gives forth emanations similar to those of a Crookes tube, and may be held in small glass tubes, which can be easily introduced into those cavities where it has been impossible to introduce the Crookes or the *x*-rays.

### Mercury Hypodermically in Syphilis.

The following combination of mercury with chloretone is recommended by S. P. Collings, in *Interstate Med. Jour.*, in the treatment of syphilis:

| | | | |
|---|---|---|---|
| ℞. | Hydrarg. bichloridi | gr. viiss | 50 |
| | Sodii chloridi | gr. iv | 25 |
| | Aquæ | ʒi | 4 |

M. Ft. solutio (gently heating); et adde:

| | | | |
|---|---|---|---|
| | Chloretone | gr. viiss | 50 |
| | Aquæ destil. | ʒv | 20 |
| | Alcoholis (absolute) | gtt. xv | 1 |

M. Dissolve the chloretone in the five drams (20.00) of water, add the alcohol and finally the solution of mercury. Sig.: Shake well, filter and inject ten drops every four or five days, increasing the dose as indicated.

### Calcium Chlorid as a Hemostatic.

Bartignon, in *Courier of Med.*, recommends the use of calcium chlorid as a hemostatic in hemorrhages from whatever source, and especially in hemophilia. In his experience it surpasses in efficiency, perchlorid of iron, antipyrin, ergotin, and does not disturb the stomach as do some of the preparations just mentioned. He employs it combined as follows:

| | | | |
|---|---|---|---|
| ℞. | Calcii chloridi | ʒi | 4 |
| | Syr. opii | ℥iii | 90 |
| | Aquæ | ℥iv | 120 |

M. Sig.: The entire amount to be taken in twenty-four hours, in divided doses.

### Expectorants and Inhalations for Cough in Children.

In the treatment of coughs in children, Augustus Caillé, in the *Post Grad.*, recommends expectorants to aid Nature in expelling the secretions, particularly in feeble children and very old people. Ipecac, ammonia, benzoic acid, camphor and potassium iodid are given as good examples. However, when the cough has its origin in the nasopharynx salt water or albolene spray is indicated or local cauterization with a 2 per cent. solution of silver nitrate. When the origin of the cough is located lower down in the respiratory tract the author employs the following combinations:

| | | | |
|---|---|---|---|
| ℞. | Tinct. opii camph. | ʒii | 8 |

Sig.: Five to fifteen drops in sugar water once or twice at night to check the cough in a child.

The foregoing is recommended for use only in urgent cases.

The following may be substituted:

| | | | |
|---|---|---|---|
| ℞. | Tinct. opii camph. | | |
| | Vini ipecacuanhæ, āā | ʒii | 8 |

M. Sig.: Five to fifteen drops at one dose, to be repeated once during the night if necessary as a sedative and expectorant for a child; or:

| | | | |
|---|---|---|---|
| R. | Liq. ammon. anisati | ʒii | 8 |

Sig.: One-half a drop to five drops in sugar water several times a day for children as an expectorant; or:

| | | | |
|---|---|---|---|
| ℞. | Ammon. chloridi | ʒss | 2 |
| | Tinct. opii camph. | ʒi | 4 |
| | Syr. pruni virg. | | |
| | Aquæ, āā | ℥i | 30 |

M. Sig.: One teaspoonful every three hours for adults, to check cough; or:

| | | | |
|---|---|---|---|
| ℞. | Potassii iodidi | | |
| | Tinct. opii camph., āā | ʒi | 4 |
| | Liq. ammon. anisati | ʒss | 2 |
| | Syr. tolutani | ʒvi | 24 |
| | Aquæ q. s. ad | ℥iv | 120 |

M. Sig.: One-half to one teaspoonful three or four times a day, as an expectorant for children and adults; or:

| | | | |
|---|---|---|---|
| ℞. | Camphoræ (tritæ) | gr. ss | 03 |
| | Acidi benzoici | gr. ii | 12 |

M. Sig.: To be taken in sweetmeats three times a days as an expectorant for children.

He recommends, also, terebene and terebene hydrate in any form of chronic bronchitis as an expectorant, the dose ranging from two (.12) to five (.30) drops in syrup or sugar or given in the form of an inhalation. As to inhalations, the various saline antiseptic and balsamic inhalants, as vapors and sprays, are of little value as compared with the soothing effects of breathing pure mountain or seashore air. It is of value, in private practice, to moisten the air of the sick room by evaporating water from an open vessel or croup kettle over a flame to which one of the following preparations has been added: Terebenthina, oil of eucalyptus, compound tincture of benzoin, terebene, or creosote. According to the author the value of oxygen inhalations is overrated.

The foregoing stimulants and expectorants are of value in overcoming dyspnea of cardiac or pulmonary origin.

In the treatment of the cough in acute bronchitis, Comby, in *Twentieth Cent. Pract. of Med.*, states that opium preparations should never be given for fear of paralyzing the lungs and lessening the reflex cough by means of which the bronchial tubes are kept open. He does advise emetics, purgatives, such as ipecac, calomel, and scammony.

Revulsion should also be carried out by means of cups, mustard plasters or tincture of iodin. Sprays are of value and the room should be saturated with antiseptic vapors. Brandy or rum should be given if there is much depression. The limbs should be well protected, if necessary, with cotton, and the child isolated. In chronic bronchitis, in addition to the local treatment, the author recommends cod liver oil, iodids and sulphur preparations internally.

### Variola (Smallpox).

The following combinations are of value, according to *Jour. des Pract.*, in the treatment of smallpox:

| | | | |
|---|---|---|---|
| ℞. | Hydrarg. chloridi corros. | gr. 3/4 | 05 |
| | Lanolini | | |
| | Liq. petrolati, āā | ʒii | 8 |

M. Ft. unguentum. Sig.: Apply locally.

As an antiseptic spray for the eruption the following combination is recommended:

| | | | |
|---|---|---|---|
| ℞. | Hydrarg. choloridi corros. | | |
| | Acidi tartarici, āā | gr. xv | 1 |
| | Alcoholis | gtt. lxxv | 5 |
| | Spts. etheris sulphurici q. s. ad | Oi | 500 |

M. As a spray locally to the affected areas two or three times a day, protecting the eyes with gauze while using the spray.

As an eliminant, the following combination is recommended as of use in the early stages of smallpox:

| | | | |
|---|---|---|---|
| ℞. | Ammon. acetatis | ℥ss | 15 |
| | Aq. menthæ pip. | ℥iii | 90 |
| | Aquæ destil. | ℥ii | 60 |

M. Sig.: One tablespoonful every hour.

In the hemorrhagic cases the following combination is of value:

| | | | |
|---|---|---|---|
| ℞. | Calcii chloridi | ʒiss | 6 |
| | Solutionis gum arabic (30 per cent.) | ʒx | 40 |
| | Tinct. cinnamomi | ʒiiss | 10 |
| | Syrupi acaciæ q. s. ad | ℥v | 150 |

M. Sig.: The entire amount to be taken in twenty-four hours in divided doses, a tablespoonful being taken at each dose.

### Lotion for Cracked Nipples.

The following combination has been recommended in the treatment of cracks or fissures in the nipples:

| | | | |
|---|---|---|---|
| ℞. | Acidi carbol. | gtt. xv | 1 |
| | Aq. laurocerasi | | |
| | Glycerini, āā | ʒi | 4 |
| | Sol. acidi borici (saturated) | Oi | 500 |

M. Sig.: Apply freely to the affected areas.

### Some of the Uses of Carbolic Acid.

Pure carbolic acid, according to W. J. Krausi, in *Merck's Archives*, can be applied to any part of the body or the openings of the body if it is immediately followed by its antidote, alcohol. It may be used on varicose or indolent ulcers with excellent results if followed up immediately by alcohol. The hypodermic injection of a 3 per cent. solution of carbolic acid in and around the bases of furuncles, carbuncles or malignant pustules, gives very satisfactory results, relieving the constitutional symptoms and hastening repair. In pruritus, carbolic acid applied locally followed by alcohol gives instantaneous relief. In lymphangitis, the same treatment along the line of lymphatic inflammation is of great benefit. Erysipelas can be prevented from spreading by the application of pure carbolic acid, and when the skin begins to turn white the alcohol should be applied, followed by the application of gauze steeped in a 1 per cent. carbolic acid solution. In this way, according to the author, the temperature may be reduced to normal and no internal medication may be necessary.

The following combination is serviceable in relieving the itching *in the dry form of eczema:*

| | | | |
|---|---|---|---|
| ℞. | *Acidi carbol. (pure)* | ʒii | 8 |
| | *Glycerini* | ʒiv | 15 |
| | *Aquæ* | Oi | 500 |

M. Ft. lotio. Sig.: Apply locally for the relief of the itching.

In specific ulcers repeated application of the following will produce healthy granulations at the base of the ulcer:

| | | | |
|---|---|---|---|
| ℞. | Acidi carbol. | gr. xv | 1 |
| | Alcoholis | ʒiv | 15 |
| | Glycerini | ʒi | 4 |
| | Aquæ q. s. ad | ℥iv | 120 |

M. Sig.: To be applied locally.

In urticaria the following combination is recommended:

| | | | |
|---|---|---|---|
| ℞. | Acidi carbol. | ʒi | 4 |
| | Acidi borici | ʒiv | 15 |
| | Alcoholis | ℥ii | 60 |
| | Aquæ | Oi | 500 |

M. Ft. lotio. Sig.: Apply locally.

In tinea tonsurans, tinea favosa, and tinea versicolor a solution containing equal parts of carbolic acid (5 per cent. solution) and glycerin is of value.

## Medicolegal.

**Evidence of Right to Practice—Suing Married Woman.**—The Supreme Court of Georgia holds, in the case of Trentham vs. Waldrop, that where a physician brings an action against a patient to recover for professional services, and alleges that he is a duly licensed, practicing physician, and this allegation is denied by the party sued, a certificate of the clerk of the superior court of the county of his residence, showing that such physician duly registered prior to the year 1895, in compliance with the provisions of Section 1479 of the civil code, is prima facie evidence of his right to practice medicine. Where, in such an action, it appears that the party sued was a married woman, having a separate estate, and the physician testifies that she, before the services were rendered, agreed to be herself responsible for payment for them, while the party sued pleads and testifies that she made no such special contract or promise, there is such a conflict in the evidence as should be submitted to the jury, and it is error to direct the jury to find in favor of the party sued on this issue.

**Physicians Appointed by Court as Witnesses.**—The Supreme Court of Washington holds, in the personal injury case of Smith vs. City of Seattle, that an instruction was properly refused which was requested to the effect that two physicians who had been appointed by the trial court as a commission to make a physical examination of the party injured were witnesses neither in behalf of the one side nor the other, and this fact the jury might take into consideration in determining their credibility, interest in the result of the case, and the weight to be attached to their testimony. The Supreme Court says that while it was true that the physicians in question had been appointed by the court to make the examination, yet they testified as witnesses called by the city. To have given the instruction would have been for the court to say, inferentially at least, that the jury were at liberty to give greater credence to the testimony of these witnesses because they had been selected by the court. This would have been clearly erroneous. Their testimony must be subjected to the same tests as that of other witnesses, and it would have been error for the court to distinguish it as being subject to any different rule.

**Sufficiency of Reporting Births by Mail.**—The case of the Department of Health of the City of New York vs. Owen was brought to recover from a physician $100 penalty for an alleged failure to report facts relating to the birth of a child, as required by the city charter. The physician testified that he made a written copy of his register of the birth, and mailed it, inclosed in a properly addressed, postage-paid envelope, to the department within ten days after birth. The only testimony on behalf of the department to indicate that this report was not received was given by the assistant register of record, who testified, in substance, that he had personal charge and control of the records of births; that they were received by him personally; that he made a search of the records of the department for a certificate of the birth in question; that there was no such certificate there; and that the usual custom prevailing in the department as to notification by a physician of a birth was that such notice, as a general rule, was mailed and sent through the postoffice. From this evidence, the Appellate Term of the Supreme Court of New York says, the conclusion followed that the physician's report, having been duly mailed, was received by the department, as its testimony on this point did not go so far as to amount to a denial that it was received. The fact that it may not have been among the records of the department at the time search for it was made was not evidence that it was not received there by mail in due course. It may have been received, and afterward lost or mislaid. But it was contended that even if this report was mailed by the physician, still the statute was violated; it being claimed that the report should have been taken personally to the office of the health department and left there. The court holds that this construction of the statute could not be sustained. It says that the statute does not require the physician to report a copy of his register as "notice" to the health department, in order for it to protect itself against an invasion of any of its rights. The report is required in order that a public record may be made from it, and there appears to be no good reason why the information required by the statute can not be imparted to the health department as certainly by mail as by requiring physicians to attend personally at the department for the purpose of handing in these reports. There seems to be no public necessity calling for the construction of the statute in the manner urged by the department. If it were so construed, there would, in all probability, be more failures of physicians to make their reports in person at the department than there are now when they may adopt the more convenient method of mailing those reports. Furthermore, the court says that the statute which was the basis of this action was penal in its nature, and its terms should not be enlarged by judicial construction, while the legislative intent as expressed in the statute could be effectively accomplished without the interference of the court.

**Liability for Services Rendered Smallpox Patient.**—The Supreme Court of Georgia says that, taking the evidence in the case of Smith vs. Hobbs, an action for professional services, most strongly against the party suing and most favorably for the one sued, it appeared that the party sued and other members of his family were afflicted with smallpox in the city of Gainesville; that the city authorities caused his house to be quarantined, and sent the party suing as a physician to treat him and other members of his family, all this being done without consulting the party sued; that the latter at no time employed the physician, or agreed to pay for the services rendered to him, but simply received the services as rendered, acting on the assumption that, as the city authorities had taken control of his premises, and had sent a physician whom he had not employed, and who was not his family physician, they intended to provide for all of the expenses incident to the treatment of the disease with which he and other members of his family were afflicted. There was evidence for the party sued authorizing the jury to find that at the time the services were rendered the conduct and sayings of the physician were such as to indicate to him that the physician did not intend to hold him liable for the services so rendered. This was the case taken most favorably for the party sued. Of course, there was evidence to the contrary, and which, the court says, would have authorized a finding for the physician. But the jury rendered a verdict in favor of the party sued; and the court holds that the evidence authorized it. In Sections 1472-1474 of the political code it is provided that, when smallpox has appeared in any city, the city authorities are empowered to provide a suitable hospital for those afflicted with the disease, and to furnish them with medical and other attention; and also authorizing the city authorities to provide quarantine regulations to prevent the spread of the disease, but not to require any person to leave his home and go to the hospital when he is properly provided for and quarantined elsewhere at his own expense; the act providing that the city shall not pay the expenses of any person so situated. The court holds that the provision that the city shall not pay the expenses of a person quarantined and provided for at his own home is applicable only in cases where a suitable hospital has been provided, and the person afflicted has been given an opportunity to be carried there, and has insisted on being treated at home. The party sued had a right to show that he was not liable, and evidence that another was liable for the account sued on was a proper matter to be considered by the jury in determining the liability of the party sued. It was not necessary that there should be any special plea setting up that the city was liable to authorize evidence of its liability for the purpose of showing non-liability on the part of the party sued. The city was not a party, and the judgment in this case would not bar a suit against it to recover the amount of the claim, though the question of whether the city was liable, the court says, was not involved in this case and was not passed on.

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### American Medicine, Philadelphia.

*January 16.*

1 *Cancer of the Stomach. A Review of Cases from the Standpoint of Diagnosis and Medical and Surgical Treatment. James R. Arneill.
2 *Congenital Intrauterine Poliomyelitis and Neuritis: The Question of Their Occurrence and Influence on So-called Congenital Deformities. Joseph Fraenkel and B. Onuf.
3 Malaria Followed by Interstitial Nephritis and Peripheral Neuritis. Otto Lerch.
4 Hallucinations of Vision. Howard F. Hansell.
5 *An Unusual Form of Tuberculous Disease of the Chest. J. N. Hall.
6 *Operation for the Radical Cure of Inguinal Hernia in Young Children. Pearce Kintzing.

1.—See also §85 below.

2. **Congenital Intra-uterine Poliomyelitis and Neuritis.**—The case reported by Fränkel and Onuf is given in detail and includes the study of several thousand careful sections. The child was four years old, had luxation of the right radius and of the left hip, motor disturbances of all four extremities, bilateral wrist-drop, drop-foot, disturbances of speech and of facial innervation. Cranial innervation was asymmetrical, the face being drawn to the left side. Other than the seventh, the cranial nerves were normal. The patient died from malignant diphtheria. After autopsy a careful microscopic examination was made, which had been so delayed that histologic interpretation was to some extent embarrassed. The causes of the condition are discussed at length. The authors rather favor the probability of congenital, intra-uterine poliomyelitis and neuritis with a suggestion of lead poisoning as a cause.

5. **Tuberculosis.**—Hall reports two personal observations and refers to one reported by a brother physician in which there were temporary manifestations of tuberculosis, hemorrhage, tuberculous sputa, loss of flesh with bronchial and laryngeal symptoms, but an absolute lack of physical signs or permanent disability. He does not believe that the pus and bacteria came from the lung proper, nor does he accept the suggestion of a small cavity, from which they might have occasionally

escaped. He thinks we can best account for the conditions by assuming a slow, chronic tuberculous ulcerative process in the bronchial glands.

6. **Inguinal Hernia in Children.**—Kintzing speaks of the hopelessness of expectant and mechanical treatment in many of these cases and describes the operation which he has performed. The youngest patient was one and a half years old. In this case the sac of the hernia and the tunica vaginalis testis were continuous, and the various elements which go to form the cord were spread out on the sac, as though forming an integral part of it. It was necessary, therefore, to first free the sac up to and well within the internal abdominal ring, then to slit it up within a short distance of this point, to free and return its contents to the abdominal cavity. After separating the vas deferens and its vessels and ligating the supernumerary veins, the sac was ligated at as high a point as possible, and one thread left long for transplantation of the stump. This transplantation is best done by passing a long-curved needle downward and inward through the transversalis fascia toward the conjoined tendon, and drawing the stump behind and against this structure. His plan has been to draw up the downward continuation of the sac, until the upper orifice of the scrotum is reached; then to cut off at this point the cuff-shaped expansion which has formed the hernial sac, leaving a tongue-shaped process to which is attached the cord as above described. In his experience, the remaining portion which drops back into the scrotum, even though much thickened, has taken care of itself without producing trouble. The omentum contained in the sac was, of course, freed and returned or removed as deemed necessary. The suturing was done in the usual manner, and the dressing retained by a plaster-of-paris spica around the thigh and the crests of the ilia, kept on about four weeks. This style of dressing prevents movement of the parts, and yet the child can be kept out in the fresh air.

### Medical News, New York.

*January 16*

7 *The Social Evil in University Life; a Talk with the Students of the University of Pennsylvania. Robert N. Willson.
8 Case of Mastoiditis; Sinus Thrombosis; Pyemia; Two Operations; Recovery. Thomas R Pooley.
9 *The Surgical Treatment of Acquired Incontinence of Urine in Women. Charles G. Cumston
10 *Some Subjective Hints of the Morphin Habit. William Lee Howard.
11 *Hemorrhagic Diseases and Their Allies in the Light of Modern Pathology. F. L. Wachenheim.

7. **The Social Evils of University Life.**—Wilson points out the dangers from gonorrhea and syphilis, especially to students, and the impolicy—to say nothing of the wickedness—of being other than pure in life.

9. **Incontinence of Urine.**—Cumston's article describes the various forms of acquired incontinence in women and the operations for its relief.

10. **The Morphin Habit.**—Howard gives certain diagnostic hints as regards the morphin habit, and calls attention to the necessity of keeping any suspicion from the patient. Watch the conditions, especially if in the afternoon, to see whether she is under the effect of the drug. If she comes complaining of a distressed feeling, ill health, irritability, etc., treat the condition, but insist that the treatment must be continued for weeks, laying considerable emphasis on the importance of seeing the patient at a certain time. Make an appointment for the next day at an early hour. The next day the appointed hour passes, and when the patient finally arrives, her excuses must be accepted. Again notice the general attitude of the patient. It may or may not vary with that noticed the day before, but the treatment must be the same. The physician must find out as to the conditions in the morning, as to the appetite, slowness of rising, etc. The patient is again late on the third day. Then he should appear at the house the next morning at a reasonable hour, with the excuse that he could not keep the office hour, and not wishing to have the day pass without seeing her, he called. It is probable that he would be told that she is not yet down and "Will he wait?" He may be detained half or three-quarters of an hour when she appears with every evidence of a hasty and careless toilet, moist skin, pale face and vapid, filmy eyes, and he is now satisfied that he is on the right track. The small amount of the drug taken will probably require her to ask to be soon excused, but after this the observer must see her under different conditions, e. g., at night when she is under the drug's control, and compare the two conditions. Make another engagement for an early hour, and if it is not kept, you will realize how impossible it is for her to recognize the value of time or promises. It is not much use to note the condition of the pupils, for the patients become expert in the use of atropin. A urinary examination may be advised, only to find that other samples have been substituted. The statements of the intimates of the patient should be sought but taken guardedly. If all accounts agree that the morale of the patient is gradually changing, she being careless of her statements, of engagements and of her sense of relationship to others, we can come to the conclusion that we are dealing with a user of morphin.

11. **Hemorrhagic Diseases.**—Wachenheim sums up his arguments as follows:

> We find that hemophilia, congenital or acquired, is a toxinemia with secondary autoimmunization to a quasi normal function; *that* the scorbutic affections are chemical autointoxications, hemorrhagic *only because* the blood is especially involved; and that the *purpura* rheumatica group is only a manifestation of ordinary rheumatism or sepsis. *After this* exposition of their very diverse nature, it seems clear that the old class of the hemorrhagic diseases has become obsolete, should be relegated to the domain of historic medicine, and cease to appear in our monographs and text-books to further puzzle the student and physician. . . . . . Winckel's disease, melena neonatorum, paroxysmal [illegible] allied clinical pictures must be regarded not [illegible] but as *symptom groups*; like the other outward [illegible] they have been placed among the hemorrhagic diseases; their proper position is under the various heads of sepsis, congenital syphilis, malaria, autointoxications, and so on, according to the individual case.

### New York Medical Journal.

*January 16.*

12 Psychic Healing, or, Properly Speaking, the Treatment of Disease or Supposed Disease by Mental Influence. Edward Wallace Lee.
13 *The Relation of Early Diagnosis and Treatment *to the* Prevention of Tuberculosis. F. M. Pottenger.
14 Simple *and Inexpensive* Apparatus for Lifting and Moving Helpless Patients. Frederick H. Sawers.
15 *Concerning the Accuracy of Percentage Modification of Milk for Infants. (Concluded.) David L. Edsall and Charles A. Fife.
16 *Some Investigations of a Bacterial Treatment of Tuberculosis. (Continued.) Stephen J. Maher.

13. **Tuberculosis.**—In order to detect tuberculosis, Pottenger says it is not necessary to wait until the bacillus appears in the sputum. If the physical signs and other diagnostic characteristics fail, the tuberculin test can be used with confidence and safety. Too much importance, however, must not be laid on physical signs, but careful attention be also given to the clinical history. While the disease is pure tuberculosis, it consists of nothing more than a few tubercles, leucocytes and proliferated-fixed cells, with very slight local irritation and slight general constitutional disturbance. Later, as the tubercles multiply, the whole disease changes. There is congestion with exudation, and a pneumonic process supervenes, cavities form and other germs enter, making a mixed infection, with all the symptoms of consumption. Tuberculosis is curable, but as regards consumption no one has been empowered with the ability to generate new cells, and without this, absolute cure can not be secured, though the condition may be arrested. Both, however, should be treated. Tuberculosis patients, he says, are apt to be indiscrete—waste their time and energy on fruitless treatments. The profession is not doing its duty in not telling them the nature and extent of their case, and they are often borne up by fallacious hopes of cure; whereas, in 80 per cent. of cases, if treated in the beginning under proper conditions, cure can be expected. Hygienic treatment is insisted on. He believes in the use of tuberculin, but it must be understood that serums have their specific action on tuberculosis and not on consumption. The advantages of sanatorium treatment are extolled as giving the best chance of recovery, and removing the patient from the danger of infecting others.

15. **Milk Infection.**—The general conclusions which Edsall and Fife consider justified are:

> 1. Milk modifications, under the best conditions, will often vary 0.2 per cent., occasionally 0.3 per cent. from the prescribed formulæ, with modifications of medium strength. With low modifica-

tions, the error will be correspondingly less; and with high modifications, correspondingly somewhat greater.

2. Home modifications are, within the limits just mentioned, trustworthy, if they are made by a clear-headed and careful person, from milks and creams of a chemical composition that is known to be reliable.

3. If the composition of the milks and creams used is not known, or if one can not be sure that the modifier is careful and clear headed, home modifications are likely to vary greatly from the formulæ prescribed.

4. Laboratory modifications appear from our figures to be satisfactorily accurate; and unless the milks and creams, as well as the person doing the modifying at home, can be fully trusted, laboratory modifications, when available, are much more reliable than home modifications.

While the most satisfactory method would be to have a thoroughly competent person make the modifications at home, it is necessary that a perfectly clear-headed mother or nurse should accomplish this. The authors are somewhat doubtful as to the accuracy in many cases, and nothing should be left to judgment or memory. There is a great advantage in using milks and creams that are under constant professional control and certified as being reliable. He advises occasional control tests of milk modifications done at home, by the physician or an assistant, as keeping them up to a proper point of accuracy.

16. **Tuberculosis.**—Maher gives a history of his method as practiced in the Seton Hospital, at Spuyten Duyvil, where he has used the cultures on some 60 cases, a number of which are reported with decidedly striking results. No compulsion was used in securing the patients and no promises of cure were made. Only the harmlessness of the method was assured. The larger number of the cases have not been under observation long enough to enable him to speak positively as to results, but an encouraging number show evidence of improvement. Some of the cases he reports are certainly rather remarkable.

### Boston Medical and Surgical Journal.

*January 14.*

17 *Cardiac Displacement. Arthur K. Stone.
18 Intermittent Hydronephrosis—Uterine Fibroid. M. H. Richardson.
19 Some Cases of Intussusception. Franklin G. Balch.
20 *The Bicycle as a Therapeutic Agent. Luther H. Gulick.
21 *Mercuric Cyanide as a Surgical Disinfectant. Charles Harrington.

17. **Cardiac Displacement.**—The possibilities of cardiac displacement in its different forms such, for example, as complete dextrocardia and mirror heart without general visceral transposition, are discussed by Stone. So far as he can find, no case of mirror heart has been put on record, though Graanboom has reported one of congenital dextrocardia with a peculiar arrangement somewhat suggestive as far as the appendages are concerned. He goes over the various forms of acquired changes, and says we must remember that in case of displacement, the heart tends to move as a mass to the right or left, and that rotation is very rare. When found, it is accompanied by exceptional conditions or is brought about by the presence of contracting adhesions; that practically in all cases the visible cardiac impulse to the right of the sternum is caused by the base of the heart and not by the apex; that extreme displacement may take place without the slightest discomfort, and that sudden death occurring in cases of large pleuritic effusions is not due to the cardiac displacements.

20. **The Bicycle.**—According to Gulick, the bicycle is a useful therapeutic agent where it is desired to increase the general organic functions of the circulation, respiration and digestive tract. Its advantages are that it exercises the large muscle masses by a great number of small efforts, that it is automatic and calls for no great neural expenditure, is taken in the open air, and, in proportion to the work done, there is little consciousness of fatigue. It is available anywhere, and with it there may be the advantages of varied scenery and good companionship.

21. **Mercuric Cyanid.**—Harrington has experimented with silk threads impregnated with 24-hour-old cultures of pus microbes, then subjected to the influence of a 1/1000 solution of pure mercuric cyanid. After varying periods of contact they were withdrawn and planted in sterile bouillon and incubated for twenty-four hours. The results were striking, and the conclusion he reaches is that the practical value of mercuric cyanid in the strength recommended is nil, and that it can not destroy all known species of pus organisms within three hours, and in double that strength accomplishes nothing within thirty minutes. It can, therefore, hardly be classed among the effective germicides.

### Medical Record, New York.

*January 16.*

22 *The Serum Treatment of Typhoid Fever. Max Einhorn.
23 *The Roentgen or Tri-ultra-violet Rays, Their Nature, Application and Dermatologic Effects. Francis Le Roy Satterlee, Jr.
24 *X-ray Dermatitis as Influenced by Idiosyncrasy. A. D. Rockwell.
25 *Liquefied Air. A. Campbell White.

22. **Typhoid Fever.**—Einhorn first notices the history of the serum treatment of typhoid, reviewing the statements of Jez, Widal and others, and gives his own experience. He employed the antityphoid fever serum of Jez and Tavel of the Berne Board of Health. He chose to use the injection method rather than to give it by the mouth, though in a few cases he also tried it in that way. As soon as the diagnosis of typhoid was made, usually with the positive Widal reaction, 6 to 12 c.c. of serum were injected daily until the temperature remained under 100 F. The cases chosen were all medium, grave and severe hospital cases. The total number of patients was 10. The details and temperature curves are given. He finds from his study that in most cases the disease did not appear to be materially shortened, but a marked reduction of the fever usually occurs, either the day after the first or after the second injection. The remission is one or two degrees lower, and the general condition, especially the sensory and nervous symptoms, were most improved. Some grave complications, like sleeplessness, headache, restlessness, delirium, etc., disappeared almost entirely. The treatment was usually begun from the ninth to the fifteenth day. He thinks still better results would be obtained with earlier recourse to the serum. While the series is small, he thinks the cases indicate that the serum treatment temporarily reduces the fever and improves the general condition so that the patients go on to more rapid recovery and safer convalescence. He has not observed any dangers connected with the injections. There was never any serious trouble. In two cases only a passing erythema of the skin was observed at the point of injection. In one case chills used to follow after quarter to half an hour. Abscesses were never observed. He favors the treatment and believes that we will yet have still better effects from a more potent serum.

23. **The Roentgen Rays.**—Satterlee gives the history of and the theories that have been offered in regard to the Roentgen rays, the character of the tubes, etc., and notices their value as a diagnostic and curative agent. He criticises the opinion that the Roentgen ray is a positive diagnostic agent as distortions have occurred, but this does not detract from its general value as an important factor in the diagnosis, especially in locating conditions. The rays have been used in some of the most formidable diseases that affect mankind, such as lupus, carcinoma, enlarged glands, phthisis, rodent ulcer, etc., and while time has not yet sufficiently elapsed to show the absolute permanency of some of the cures, yet enough has been discovered to show their value. In many cases it may be necessary to produce dermatitis, while in others a few treatments will bring about effective results. He thinks the promises for the future are still better than have been the results of the past and present.

24. **X-Ray Dermatitis.**—Rockwell calls attention to idiosyncrasy as affecting the probability of *x*-ray dermatitis, and reports cases showing susceptibility. He thinks we should never fail to interrogate as to idiosyncrasy, such as to sunburn, ivy poisoning, from eternal applications, before using the *x*-rays. In one case in his experience, where no appreciable dermatitis was produced, the slightest exposure caused the most unpleasant sensations of burning and itching, and the patient was likewise specially subject to ivy poisoning. Advanced malignant cases are another matter—the burn may be of small value relatively; but in simple, uncomplicated skin affections the production of a dermatitis of the second or third degree may be regarded as worse than the disease.

25. **Liquefied Air.**—White describes liquefied air and its properties, calling attention to its value as a local anesthetic

and for treatment in inflammatory conditions. He thinks in inflammatory processes, where application of cold is desirable, the condition can be better and more pleasantly managed with liquefied air applications than in any other way, using exposure to the vapor from liquid air, or soaking a towel in the liquid, and quickly and intermittently applying it to the part, or rolling a glass bulb containing the liquid over the part, etc. To produce an inflammation or stimulating effect, the liquid air must be applied directly and intermittently to the skin. In chronic indolent ulcerating surfaces, by spraying just sufficient to freeze for a second only, a good healthy granulating surface will be obtained, and foreign growths can be destroyed in the same way. The air inflammation subsides quickly and responds readily to hot boracic acid or carbolic fomentations. A nevus or birthmark, if judiciously treated, can be removed by this more quickly and with less pain than by any other method. The greatest danger to be avoided is excessive freezing, which may produce inflammations as severe as those destroyed. Hemorrhage is not likely to occur even in very vascular nevi or hemorrhoids. In the treatment of carbuncle, not too far advanced, liquid air seems to act as a specific. In all cases of carbuncle less than 3 inches in circumference it was aborted in one hour after a thorough freezing. In larger ones he sprayed the cavity after a crucial incision, with prompt healing. He recapitulates as follows:

> In liquid air we have the nearest approach to absolute zero ever obtained, excepting liquid hydrogen, which is many degrees colder and is liquefied by the assistance of liquid air. If there is any therapeutic value in cold we certainly have it in liquefied air, 312 degrees below zero, and from this we can obtain any desired temperature above that point. If there is any therapeutic advantage in having a dry cold, we have it in liquid air, for in anything colder than 32 degrees below zero no moisture can exist. That moist cold is more destructive to the tissues than dry cold is an accepted fact. If it is desired to produce a local anesthesia by cold, we have no means of obtaining the result equal to liquid air, for it is dry, rapid, thorough, clean, and under perfect control. That circulatory changes can be produced by the extremes of temperature, that of liquid air and the human body, is self evident, and experiments in this direction have demonstrated its therapeutic value both in the production and reduction of inflammation, according to the method of its use. Being nothing but the air we live in, reduced to a low degree of temperature, and free from the usual pollutions of the atmosphere, it surpasses all other applications previously in use for the removal of all growths of benign or malignant character, because its application is practically painless, its action more rapid than electrical methods, and there is no systemic effect whatever following its local use.
>
> If there is any value in the therapeutic use of oxygen, we have it in its most concentrated form in liquid air, from which it has been demonstrated we obtain liquid oxygen, and oxygen of much higher percentage and purer quality than obtained in any other way.

He says if the medical profession really understood liquid air and its physical properties, its therapeutic value would at once appeal to them.

### Cincinnati Lancet-Clinic.

*January 16.*

26 *Gonorrhea in Women. Palmer Findley.
27 *A Few Considerations on the Etiology and Pathology of Cutaneous Cancer. (Concluded.) A. Ravogli.

**26. Gonorrhea in Women.**—Findley reviews the facts in regard to gonorrhea, its latency in certain instances, and describes the condition as it occurs in the female. He believes in the use of simple cleanliness in the acute stages, later using antiseptic solutionss to the urethra, such as 10 per cent. protargol solutions daily, curetting the uterus and applying pure formalin on a swab. If pus accumulates in the appendages it should be removed, though much may be done to facilitate absorption by conservative methods. The abdomen should never be opened during the acute stage. If the pain and toxic absorption demand interference, the abscess must be drained through the vagina or not at all.

**27. Cutaneous Cancer.**—Ravogli concludes thus:

> 1. Carcinoma is an inoculable disease. 2. Precancerous keratosis, superficial and deep cancers are identical. 3. Carcinoma in its origin is the result of a parasite. 4. The poisonous properties of this parasite are revealed on the cells, at first in a limited area, later on in the general system.

### St. Louis Medical Review.

*January 16.*

28 Education and Culture in the Medical Man. E. S. Goodhue.

### Bulletin of the Johns Hopkins Hospital, Baltimore.

*December.*

29 The Influence of Pasteur on Medical Science. C. A. Herter.
30 *Ascending Renal Infection; with Special Reference to the Reflux of Urine from the Bladder into the Ureters as an Etiologic Factor in Its Causation and Maintenance. John A. Sampson.
31 A Morphological Study of the Blood of Certain Fishes and Birds, with Special Reference to the Leucocytes of Birds. Ernest K. Cullen.

**30. Ascending Renal Infection.**—Sampson has studied the subject of ureteral infection and finds that the normal anatomic structure and the physiologic action of the ureters indicate that their function is not only to carry urine to the bladder, but also to prevent fluid from passing backward, and that under normal conditions it is impossible for the latter to take place, but cases have been reported where an apparent reflux has occurred. The infecting organism may be conveyed, he says, from the bladder to the kidney through the general circulation or the vesico-utero-ovario-renal anastomosis, through the ureteral blood vessels, the lymphatics or through the lumen of the ureter by injuries to the intravesical portion, by extension of an inflammatory process from the bladder along the ureteral walls, which is probably the most frequent, by organisms traveling up the ureter, especially when the current is interfered with by a stricture or something occluding the lumen of the ureter, by a reflux of urine from the bladder into the ureters, by intravesical pressure, reverse peristalsis, or by suction of air when the patients are examined in the knee-breast posture through an open cystoscope. This reflux may be considered as an etiologic factor in the causation and maintenance of renal infection only when the intravesical portion of the ureter is diseased, thus impairing its function, or when some ureteral abnormality exists. Two accessory etiologic factors of great importance must be considered: 1. An injured kidney with lowered local resistance, most frequently due to ureteral stricture from cystitis or calculi. 2. General ill health of the patient, that is, lowered general resistance. Both of these may so influence the function and resistance of the organism that it is no longer able to destroy or excrete that which under healthy conditions would have been done away with. He asks why autogenous renal infection does not occur more frequently, and why organisms are not found more often in the urine and in the blood of healthy individuals.

### St. Paul Medical Journal.

*January.*

32 *Graves' Disease. With Report of Five Operated Cases. Arnold Schwyzer.
33 A Memoir of Desault. Charles G. Cumston.
34 Unusual Sources of Poisoning. William Davis.
35 Congenital Dislocations of the Hip. A. C. Baker.

**32. Exophthalmic Goiter.**—Schwyzer reports five cases operated on with good results. He thinks surgery offers the only good and reasonable hope in serious cases; that even in the milder cases, medical treatment can not promise anything definite. He asks why, then, even in moderate cases, if the treatment is unsatisfactory, should we not prefer an operation which in competent hands is only slightly dangerous and which, beside being a better guarantee for a more lasting cure, saves so much time and anxiety. He thinks the transitory or atypical forms or cases lacking a cardinal symptom ought not to be included as surgical cases, and only cases with distinct exophthalmic goiter should be considered. Otherwise the surgeon would run the risk of being charged with having operated on cases of simple thyroidism so often found in adolescent patients. But only in mild cases where internal treatment is satisfactory or operation is refused is internal medicine to be depended on. In all others surgical measures are advisable and preferable.

### Journal of Infectious Diseases, Chicago.

*January 2.*

36 *Cultivation of Trypanosoma Brucei. Frederick C. Novy and Ward J. McNeal.
37 *Studies in Pyroplasmosis Hominis. ("Spotted Fever" or "Tick Fever" of the Rocky Mountains.) Louis B. Wilson and William M. Chowning.
38 Report on Two Cases of a Peculiar Form of Hand Infection Due to an Organism Resembling the Koch-Weeks Bacillus. John R. McDill and William B. Wherry.
39 *The Pathologic Anatomy of "Paratyphoid Fever." Report of a Fatal Case with Bacteriologic Findings. H. Gideon Wells and Lee O. Scott.
40 Agglutination of Streptococci, Especially Those Cultivated from Cases of Scarlatina, by Human Sera. George H. Weaver.

41 The Effects on Streptococci of Sera of Cold-blooded Animals. Gustav F. Ruediger.
42 The Action of Certain Salts on the Complement in Immune Serum. Wilfred H. Manwaring.
43 Experimental Study of Thyrotoxic Serum. Milton M. Portis.
44 *Contribution to the Casuistry of Placental and Congenital Tuberculosis. Aldred Scott Warthin and David M. Cowie.
45 Changes in the Bacterial Flora of Sewage During Storage. C. E. A. Winslow and D. M. Belcher.
46 Some Cultural Relations and Antagonisms of Bacillus Coli and Houston's Sewage Streptococci; with a Method for the Detection and Separation of These Micro-organisms in Polluted Waters. S. C. Prescott and S. K. Baker.

36.—See summary in The Journal A. M. A., Nov. 21, 1903, p. 1266.

37. **Pyroplasmosis Hominis.**—Wilson and Chowning give a full review of the spotted fever of Montana and its probable etiology. They see a direct relation between its occurrence and the active season of the *Spermophilus columbianus*, which probably harbors the ticks that give rise to the disease. The arguments are given in detail.

39. **Paratyphoid Fever.**—Wells and Scott give the histories and a study of five cases which indicate to them that paratyphoid infections are accompanied with quite different changes from those from typhoid. On the other hand, there is little characterizing this infection from other septicemias anatomically, however much it may differ clinically. The most constant change was the splenic enlargement which was present in all five. It seems to be the same as that of typhoid or ordinary septicemia. The microscopic findings are similar, and the anatomic changes are simply those of septicemia with splenic swelling and occasionally non-specific ulcerations in the intestine. The total escape of Peyer's patches seems to indicate some essential difference between the typhoid and paratyphoid organisms.

44.—See editorial last week.

### Journal of Cutaneous Diseases, New York.

*January.*

47 Protozoa in a Case of Tropical Ulcer ("Aleppo Boil"). James H. Wright.
48 *Peculiar Inclusions in Lupus-like Tissue. John T. Bowen.
49 A Case of Epidermolysis Bullosa Hereditaria, Associated with Congenital Alopecia and Atrophy of the Finger Ends. Grover W. Wende.
50 Vitiligo Treated with Finsen Light. Douglass W. Montgomery.
51 A Case of Feigned Eruption. William S. Gottheil.
52 Method of Using Arnold's Phototherapeutic Apparatus. W. F. Arnold.
53 *A Tentative Suggestion Regarding the Nature and Character of X-rays. M. L. Heidingsfeld.

48. **Peculiar Inclusions in Lupus-Like Tissue.**—The case presented by Bowen was one that exhibited symptoms suggesting blastomycosis, but the lesions resembled tuberculosis more than anything. Pathologic examination showed bodies similar to those described by other observers in tuberculous tissue, but it was not possible to prove that it was a case of tuberculosis. The nature of the peculiar bodies could not be determined. There was no evidence of calcareous degeneration or that the bodies bore any relationship to elastic tissue. It was difficult to avoid the suspicion that they were parasites.

53. **The Character of the X-Rays.**—The theory of the *x*-ray here advanced by Heidingsfeld is that it consists of minute particles of platinum in a very high state of "radiant" excitation, emanating from the enclosed disc, and moving with sufficient velocity to readily penetrate the circumscribed glass enclosure and all opposed soft and fairly hard substances. This, he thinks, will explain all the physical and physiologic phenomenon. To confirm it, the detection of platinum *at the* point of ultimate deposition *must be* insured, and this is left for future study. A careful estimation of any loss of platinum from the disc after careful consumption of the tube, preferably with repeated exhaustions, would be also confirmatory, but less absolute proof.

### Annals of Gynecology and Pediatry, Boston.

*January.*

54 *Hymen Intactus; Its Significance in Medical Jurisprudence. (Concluded.) Charles Greene Cumston.
55 Congenital Dilatation of the Colon. I. Valentine Levi.
56 Extra-uterine Gestation. Nelson W. McMurphy.
57 *The Causation and Treatment of Eclampsia. A. Lapthorn Smith.
58 Artificial Dilatation of the Cervix Uteri with Report of a New Instrument. Frank A. Higgins.

54. **Hymen Intactus.**—Cumston calls attention to the medicolegal bearings of the subject: the necessity in all cases of noticing the normal physical conditions of the hymen, as well as the question of its actual integrity or otherwise. The possibility of coitus without rupture of the hymen should be remembered and its shape, the resistance, etc., should be considered.

57. **Eclampsia.**—Smith holds that eclampsia is due to anemia of the corpora striata or to such other brain centers as *control muscular movements*. This anemia is caused by a spasm of the arterioles, but every capillary in the body is probably likewise affected, those of the kidneys included, and the spasm-producing toxin—not necessarily urea—rapidly increases in a vicious circle. The arterioles of the brain tighten up, causing disorders of vision and headache. The circulation of the blood through the kidneys comes to a stop, as well as that in the brain, the patient loses consciousness, and convulsions begin. The treatment which he considers best is to administer one-half or three-quarters of a grain of morphin within three minutes of seeing the case, and ten drops of veratrum viride hypodermically following in five minutes and repeated every ten minutes until the convulsions stop and the pulse comes down to 40. Then he gives a quart of salt solution by enema, to be quickly absorbed as the kidney arterioles relax. The water will rush into them, and in half an hour there will be a copious secretion of poison-laden urine. No chloroform or chloral will be needed, and no forced delivery. The best way is to allow the woman to fall into a quiet slumber. This occurred in half an hour in his three cases. The physician can then go home. There will be a normal labor and probably a dead fetus in a day or week. He says you may get a fright when the pulse comes down to 40, but there is nothing to fear. He has not been able to find or hear of a case of eclampsia treated in this way, but without chloroform or chloral, that died. He thinks *chloroform administration* is enough of itself sometimes to cause the death of the patient.

### Ophthalmic Record, Chicago.

*December.*

59 *When Not to Prescribe Cylinders for Astigmatic Eyes, and When to Prescribe Them for Non-astigmatic Eyes. N. C. Steele.
60 *Is Double Operation for Senile Cataracts Justifiable? Howard F. Hansell.
61 *Notes *on* Some of the Newer Methods and Drugs in Ocular Therapeutics. Methylbromid of Atropin, Dionin, Subconjunctival Injections, *Jequiritol. Albert B. Hale.*
62 A Deviometer Attachment to the Skeel Perimeter. David W. Wells.

59. **Astigmatism.**—From a study of the subject, Steele *concludes that many cases* with low degrees of astigmatism with the best meridian horizontal, or nearly so, should not have the astigmatism corrected, at least not fully corrected, in lenses for near use only. This does not apply, he says, to lenses to be used for all purposes such as are generally worn by *persons under forty*, nor does it apply to simple cylinders of low degree, nor to lenses in properly selected pantoscopic frames. It applies, however, to cases where the refraction tests indicate the near use of spherocylinders with cylinder axis horizontal, because it is *chiefly* the increased converging power of the vertical meridians of spherical lenses and the spherical part of spherocylindrical lenses as used in near work that produces the condition discussed. He is guided by the following suggestions in cases of astigmatism with the best meridian horizontal in prescribing near *lenses*: If the astigmatism is of low degree with best meridian horizontal, he entirely omits the cylindric element of the lens. In high degrees of astigmatism he omits a part of the cylindric element, thus undercorrecting the absolute amount of astigmatism shown to exist by the usual tests. He depends on the spherical lenses or the spherical part of the spherocylindrical lenses to correct all or a portion of the astigmatism.

60. **Senile Cataract.**—Hansell has performed the double operation in five cases of senile cataract, and his experience inclines him to increase the number as suitable opportunities arise. He believes the double operation is justifiable when the vision of each eye is so diminished that the patient is de-

barred from his usual occupation and is consequently unable to earn a living, both cataracts being ripe enough to warrant extraction. In other words, that either lens might be operated on with equally good chances of a favorable result when nothing in the patient's physical or mental state might militate against recovery; when the cataracts are not secondary to local or general disease, and when extraction of the first lens is accomplished without accident or indications of complications should operation on the second eye be attempted. The surgical shock, he says, is hardly worth considering. The real suffering, nervousness, confinement to bed, etc., are the same whether one or both eyes are operated on.

61. **New Ophthalmic Drugs.**—Hale gives his experience with certain new drugs in ophthalmic practice. Methylbromid of atropin is first mentioned, and he has found it much quicker in disappearance than the sulphate, twelve to twenty-four hours quicker than scopolamin, and somewhat slower than homatropin. His experience convinces him that methylbromid of atropin used in a 1 per cent. aqueous solution is a trustworthy mydriatic and a good cycloplegic in refraction; an untrustworthy mydriatic in iritis, but a comfortable one in corneal inflammations; its action begins at about the same time as the sulphate, but has disappeared from two to six days before the latter; it should rank below the sulphate for complete action, but equal or above all other drugs. Dionin has not been so satisfactory in his experience. He thinks it deserves a more modest place in therapeutics than some of its advocates would give it. Its action is not lasting; it is simply an adjunct to other agents, helpful in emergency, but not trustworthy. He says, let us use it as a powder, as a 1 or 5 per cent. solution, alone or with another drug, but let us not forget that it is always the other drug on which we must rely. Subconjunctival injections and their value are also discussed. He finds that they are especially advantageous in non-suppurative diseases of the uveal tract, such as plastic choroiditis. He does not place much dependence on the method in corneal inflammation, though remarkable results have been reported. The only question, in his mind, is to decide on the best way of applying the method. The earliest theory insisted on using a solution of mercuric bichlorid for its special antiseptic and specific powers, but this has been abandoned and simple sodium solution, either 2 per cent. or higher strengths, suggested. He finds no advantage in sodium chlorid solution stronger than 2 per cent. His experience has not been favorable with hetol. Lately he has used 1 to 3,000 and 1 to 5,000 cyanid of mercury solution, to every fifteen drops of which he has added two drops of a 1 per cent. acoin solution. He has steadily used this combination, and has seen no reason to abandon it. Jequiritol has also been tested, and 6 cases of its use are reported. He does not hold that it is a complete substitute for better methods or that it will revolutionize the treatment of trachoma or vascular keratitis, but it certainly has remarkable power.

### American Journal of the Medical Sciences, Philadelphia.

*January.*

63 *On the Visceral Manifestations of the Erythema Group of Skin Diseases. William Osler.
64 *A Clinical and Pathologic Study of Two Cases of Splenic Anemia, with Early and Late Stages of Cirrhosis. George Dock and Aldred S. Warthin.
65 *Desquamation of the Skin in Typhoid Fever. David Riesman.
66 *The Differential Diagnosis of Typhoid Fever in Its Earliest Stages. William C. Rucker.
67 *The Localizing Diagnostic Significance of So-called Hemianoptic Hallucinations, with Remarks on Bitemporal Scintillating Scotomata. A. Pick.
68 Case of Spontaneous Prolapse of Both Lacrymal Glands. Review [illegible]
69 Acute [illegible] Roth.
70 Case o[illegible] of the Ureters. Henry B. [illegible]
71 *The Present Status of Pseudodiphtheria Bacilli. Thomas W. Salmon.
72 Report of Three Medicolegal Cases Involving the Diagnosis of Chronic Delusional Insanity. Sanger Brown.
73 Mercurial Nephritis. John M. Swan.
74 *The Cardiosplanchnic Phenomenon. Albert Abrams.
75 *The Etiology, Pathology and Diagnosis of Adrenal Hemorrhage. Leonard S. Dudgeon.

63. **The Visceral Manifestations of the Erythema Group.**—Osler's paper is a continuation of two former ones published by him in 1895 and 1900. In this he adds 11 new cases to those already observed, and analyzes the features of the whole group of 29 cases contained in the three papers. The conditions described were somewhat various, including different forms of erythema, certain cases of purpura, urticaria and edema. One of the most constant symptoms in the whole group, occurring in 25 of the cases, was recurring attacks of colic, showing visceral lesions. There was also acute nephritis in 14 of the cases, and hemorrhage of the mucous membrane in several. Other symptoms were less frequent, such as cardiac complications, swelling of the fauces, of the larynx in one case and brain symptoms in two. Seven deaths occurred in the series. The lesions varied in individual cases from time to time, but there was no question that all of them, with the extraordinary visceral symptoms, were manifestations of one and the same cause. Arthritis was present in 17 cases, but, as a rule, was slight. The very chronic cases, he says, may resist all therapeutic measures. Alterative courses of gray powder, with careful dieting, may be helpful. With angioneurotic edema nitroglycerin in full doses may be tried. In one case camphor did good. In such severe types as some in the series given, nothing seemed to arrest the progress. The chief danger is in the kidney complications. He mentions the importance of early precautions to prevent its progress, namely, protracted rest in bed and a milk diet, which, he thinks, are the best means at our disposal.

64. **Splenic Anemia.**—Two cases reported by Dock and Warthin indicate the clinical and anatomic peculiarities of a late and an early stage of Banti's disease; an older, splenic fibrosis and a more recent fibrosis of the liver, also stenosis and calcification of the portal vein. They ask, is the latter the primary condition, to which the splenic fibrosis is secondary, or is it the result of a portal or general intoxication, to which fibrosis of the other organs is also due? Other similar cases will be required to settle this question, but the cases reported, the authors think, favor the view that the symptom-complex of splenic anemia represents a group of varying pathologic conditions, the splenic condition being secondary.

65. **Skin Desquamation in Typhoid.**—Riesman notices the rarity of the condition and the lack of attention it has received, and says, in conclusion, that we can distinguish three varieties of desquamation in typhoid: 1. That confined to the roseolar spots; in some cases each spot has a little vesicle which passes into thin, scale-like crust. 2. That appearing as a sequel of sudamina. This is confined to the areas that have been the seat of sudaminal eruption. The desquamation is usually furfuraceous, but is sometimes scaly. It appears on the trunk and the proximal part of the limbs, but never on the distal parts of the extremities or on the face. 3. In some instances, as in the second case reported, there is an extensive, almost universal, desquamation either furfuraceous or lamellar, apparently independent of sudamina. In all probability it is a trophic change analogous to the shedding of hair. It affects the trunk and the roots of the limbs, rarely the face and distal parts. Usually the intensity of the desquamation is in relation to the severity of the fever.

66. **The Diagnosis of Typhoid.**—The following are the conclusions of Rucker's paper:

> 1. There is no single symptom on which alone an early diagnosis of typhoid fever can be made. It is only by careful consideration of the symptom-complex that a clinical diagnosis can be arrived at. 2. The most trustworthy, as well as the earliest, sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth. 3. The demonstration of the bacillus of Eberth in the blood is not beyond any fairly well equipped laboratory. 4. The bacillus of Eberth is found in the feces later than in the blood, but with comparative ease. The presence of the typhoid bacillus in the feces is of great value as a corroborative sign. 5. Its presence in the rose spots is a trustworthy sign, but has no advantages over the examination of the blood from other localities. 6. The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever. It is of value only in the higher dilutions.

67. **Hemianopic Hallucinations.**—Four cases are reported by Pick which seem to him to indicate the probability that such hallucinations may be induced by lesions in the optical tracts, either focal or *functional*. He points out the transition of elementary light phenomena of scotoma scintillans into real

hallucinations, which favors the idea that hemianopic hallucinations may be due to localized excitations in the optical tracts and not in the occipital lobe only.

71. **The Pseudodiphtheria Bacillus.**—Salmon describes in this article the special form of pseudodiphtheria bacillus which has been found occurring in the inmates of the Willard State Hospital. It appears in the shape of an elongated ellipse, two deeply-stained segments separated by an unstained portion, apposed base to base, usually rather equal, but sometimes one longer than the other, the short one being usually the thicker. Illustrations of both types are given, also of the appearance of such bacilli when they occur in pure cultures of the diphtheria bacillus. He thinks this type is possibly a distinct one, and its recognition as such would be a help in classifying diphtheria-like bacilli, for it is responsible for more difference of opinion in the examination of cultures from well persons than any of the pseudodiphtheria types.

74. **Cardiosplanchnic Phenomenon.**—The cardiosplanchnic phenomenon consists in the results of percussion over the lower portion of the cardiac region or the sternum in different postures. In the upright position the percussion sound will be resonant or possibly hyper-resonant. In the recumbent position it is dull and flat. Vigorous compression of the abdomen will exaggerate the phenomenon in all instances. Abrams points out the importance of this symptom as aiding in the differentiation of a dilated heart from a pericardial exudate. *In the latter it will not be elicited.* It will also be exaggerated in idiopathic syncope and vertigo, in vertiginous attacks of Glenard's disease, which may be attributed to defective splanchnic vasomotor mechanism.

75. **Adrenal Hemorrhage.**—Four cases are reported by Dudgeon, who notices the literature of the subject and its occurrence in regard to its relation with Addison's disease. He believes it is too early fatal to allow development of the symptoms of the latter. There is but one place where we are able to diagnose adrenal hemorrhage with any degree of certainty, and that is in the postmortem room.

### Kansas City Medical Index-Lancet.

*January.*

76 *Inflammation of Glands of Bartholin a Cause of Rectal Fistula. J. M. Frankenburger.
77 The Face in Disease. Wm. Cott.
78 The Differential Diagnosis of Traumatic Neurasthenia and Hysteria. John Punton.
79 The Use of Thiersch's Solution in the Treatment of Typhoid Fever. Harry L. Heller.

76. **Rectal Fistula from Bartholinitis.**—Frankenburger calls attention to inflammation of Bartholin's glands as the cause of rectal fistula, reporting a number of cases. He thinks abscesses of these organs have received too little attention, considering the possible bad effects.

### Memphis Medical Monthly.

*January.*

80 *The Surgical Treatment of Chronic Bright's Disease. M. Goltman.
81 The Importance of an Early Diagnosis of Uterine Cancer. W. W. McRae.
82 Some Observations on a Recent Series of 117 Abdominal Sections with One Fatality. J. A. Crisler.
83 **A Further Report on the Use of Intratracheal Medication in the Treatment of Catarrhal Diseases of the Lower Respiratory Tract.* Richmond McKinney.
84 Streptococcic Infection of Wounds. Ira B. Bartle.

80. **Bright's Disease.**—Goltman reports several cases of decapsulation. He thinks it is indicated in any form of chronic Bright's disease in any case where the patient has at least a short lease of life before him. His own cases have been of the diffuse and parenchymatous varieties, but, according to Edebohls, the interstitial form does best. This seems paradoxical to him, but experience is the best guide. To get the most beneficial results the operation should be done when the heart and arterial system are not too much deteriorated. The better their condition, the better the prognosis.

83. **Intratracheal Medication.**—McKinney advocates intratracheal medication in severe catarrhal conditions, using mild guaiacol solution daily. A few cases are reported, taken at random from a large number, showing, he thinks, how beneficial this method of direct medication is in catarrhal affections of the lower respiratory tract.

### Denver Medical Times.

*January.*

85 **Cancer of the Stomach*—A Résumé of Cases from the Standpoint of Diagnosis and Medical and Surgical Treatment. James R. Arneill.
86 Inherited Syphilis. Sol. G. Kahn.
87 The Treatment of Acute Otitis Media Purulenta. Robert Levy.
88 Decapsulation of the Kidney for Chronic Nephritis with Report of a Case. E. S. Wright.

85. **Cancer of the Stomach.**—This article by Arneill covers the subject of stomach analysis and the diagnosis of gastric cancer. He says the persistent absence of HCl, the presence of lactic acid, long bacilli, yeast and retained food, with tumor and cachexia, in the vast majority of cases mean carcinoma. Even without the tumor, the diagnosis is justified. Positive diagnosis in the early stage is impossible. In an obscure digestive case which repeatedly shows an absence of free HCl and in which pernicious anemia has been excluded by careful blood examination, which continued to grow worse under good treatment, exploratory laparotomy should by all means be urged for diagnostic and, if indicated, for therapeutic purposes. He remarks on the failures of laboratory diagnosis in some of these cases, and thinks that, perhaps, the younger generation of physicians is apt to overestimate the value of such methods, while the older class minimize their importance.

### Northwest Medicine, Seattle.

*December.*

89 Medical Ethics. A. P. Procter.
90 Tubercular Kidney: Symptomatology and Diagnosis. Caspar W. Sharples.
91 **The Surgical Problem in Prostatic Hypertrophy.* (Concluded.) George W. Hawley.

91. **Prostatic Hypertrophy.**—Hawley's theory of the relief of prostatic hypertrophy is that it is not the prostate, but the adjacent urinary tract that demands relief. The trouble is due to displacement of the outlet and floor of the bladder from enlargement of the retro-urethral portion of the prostate. The only way to relieve the condition is by correcting the displacement, and the logical mode is by reduction. This is shown by the fact that operative methods improve urination by virtue of their power to reduce this displacement. While some of the methods employed partially or even completely accomplish reduction with comparative safety and others reduce the displacement at considerable risk, none does so with both safety and success. The problem being a simple mechanical one, reduction based on anatomic and mechanical rules should be the safest and best. His own method here suggested, and as tried on the cadaver, is to make Zuckerkandl's bi-ischial perineal incision, exposing the bulb of the urethra and the posterior half of the perineum, releasing the support of the latter by dividing the recto-urethral muscle just behind its attachment to the bulb, allowing the rectum to drop backward. The levators were then divided, enlarging the operative field, and the prostatic sheath opened along the under surface of the prostate from the apex to the base, separated from the lateral and undersurface of the retro-urethral prostate by the finger. After freeing the sheath the prostate was dislocated downward, and a section removed from the outer and lower portion of each lateral lobe. In each case operated on the reduction seemed to be complete. The retroprostatic pouch was obliterated, and good bladder drainage restored. In each case the urethra, bladder and ejaculatory ducts were uninjured, and enough of the prostate remained untouched to perform its functional purposes in all probability. He thinks this method is appropriate in early cases before the urinary tract has become infected and disorganized, because it can be done as an aseptic operation; because the urinary organs are uninjured, and the operative risk is small. The extent of operative interference required can be judged according to the conditions. He believes that this would be more effective than prostatectomy and less severe a procedure. The harm of removing the perineal support in the male is unknown, and is probably *nil*. The support of the bladder floor, following this method, would be maintained by the portion of the retro-urethral prostate remaining, and the cicatrix, filling in the perineum, would be low.

### Medical Fortnightly, St. Louis.

*January 11.*

92 A Plea for the Early Recognition of Diseases of the Stomach. Milton H. Mack.
93 Consumptives in Colorado. W. T. Little.

### Journal of the Michigan State Medical Society, Detroit.

*January.*

94 Bacteriology and Serum Therapy of Tetanus. E. M. Houghton.
95 The McGraw Elastic Ligature for Gastro-Intestinal Anastomosis. S. Edward Sanderson.
96 Headache. Jeanne C. Solis.
97 Pathological Changes Following Lacerations of the Cervix. R. L. Morse.
98 Certain Facts in Regard to the Intermediate Group of Organisms. Guy L. Connor.

### Journal of Advanced Therapeutics, New York.

*January.*

99 X-ray and Light in the Treatment of Tuberculosis. Russell H. Boggs.
100 Electrotherapy as a Specialty. A. W. Bayliss.
101 The Therapeutics of the Continuous Current. (Continued.) Margaret A. Cleaves.

### Colorado Medicine, Denver.

*December.*

102 Soup Diet and Other Points in the Dietetic Management of Typhoid Fever. H. B. Whitney.
103 Operations on the Kidney; with Report of a Case of Nephro-ureterectomy. Chas. H. McLean.
104 An Outline of Albuminuria. Edward C. Hill.
105 Criminal Abortion. Minnie C. T. Love.

### New Yorker Medicinische Monatschrift.

*November.*

106 Das heisse Vollbad (The Hot Full Bath). Friedrich Grosse.
107 Zur modernen Therapie (Modern Therapeutics). A. Herzfeld.

### Providence Medical Journal.

*January.*

108 The Winter Quarters at Pine Ridge Camp. William H. Peters.
109 Remarks on Specimens Illustrating Certain Forms of Arterial Disease. Frank T. Fulton.
110 Remarks on the Anatomy of the Appendix. Arthur Hollingsworth.
111 The Doctor in Court. G. Edward Buxton.

### New York State Journal of Medicine, New York.

*January.*

112 Kumyss of the Kirghis Steppes. E. F. Brush.
113 *Sea Bathing in Some Forms of Skin Diseases. Robert Abrahams.
114 *Stab Wounds of the Abdomen. Fred J. Douglas.
115 *Results from the Operative Treatment of Carcinoma of the Rectum. James P. Tuttle.
116 *School Hygiene and the Need of Medical Supervision in all Our Schools. H. Ernest Schmid.
117 *Ergot in Alcoholism, Morphinism and the General Class of Drug Habit Cases. Alfred T. Livingston.
118 *One of the Dangers of the Surgery of the Biliary Passages. E. D. Ferguson.

113 and 116.—See abstract in THE JOURNAL, xli, p. 1158.

114, 115, 117 and 118.—Ibid., pp. 1107 and 1108.

### California State Journal of Medicine, San Francisco.

*January.*

119 Cases of Tuberculosis of the Genito-urinary Tract, with Remarks. George Chismore.
120 Peritoneal Adhesions. Their Symptomatology, Pathology and Prevention. E. E. Kelly.
121 What Is Conservatism in Mastoiditis? W. S. Fowler.
122 National Bureau of Medicines and Foods. H. H. Rusby.

### Indiana Medical Journal, Indianapolis.

*January.*

123 Atypical Typhoid Fever. Henry Jameson.
124 Typhoid Fever—The Management of the Case. Samuel E. Earp.
125 Typhoid Fever; Course, Symptomatology and Diagnosis. George D. Kahlo.
126 The Surgical Treatment of Typhoid Fever. Thomas B. Noble.
127 Prophylaxis of Typhoid Fever. John N. Hurty.
128 Streptococcic Septicemia. James Y. Welborn.
129 Dr. Deaver's Work in Appendicitis. John B. Deaver.

### Bulletin of the American Academy of Medicine, Easton, Pa.

*December.*

130 *How the Physician May Influence the Declining Birth-rate. Roland B. Curtin.
131 Necessity for a National Bureau of Medicine and Foods. H. Bert Ellis.
132 Examinations for Medical Licensure in 1902. Charles McIntire.

130.—See abstract in THE JOURNAL, xl, p. 1603.

### American Medical Compend, Toledo.

*January.*

133 Dermoid Cyst of the Ovary, with Report of Four Cases. Joseph F. Fox.
134 Potable Water Supply for Cities. W. C. Chapman.
135 A Plea for Better Knowledge of Insanity Among General Practitioners. George C. Love.
136 Anesthesia and Anesthetics. C. W. Moots.
137 Headache and Backache of Menstruation. Charles A. Dunham.
138 Catarrhal Diseases of the Upper Air Passages. Clarence G. Clark.

### Nashville Journal of Medicine and Surgery.

*November.*

139 Surgery, and Its Daughter, Gynecology. R. E. Fort.

### Maryland Medical Journal, Baltimore.

*January.*

140 A Year's Work in Appendicitis. Randolph Winslow.
141 Are Tenotomies for Hyperphoria Necessarily More Uncertain in Their Results Than Those for Esophoria and Exophoria? Samuel Theobald.

### Journal of the Kansas Medical Society, Topeka.

*January.*

142 Rapid Histologic Methods. C. E. McClung.
143 Argyrol. J. W. May.
144 The Newer Texts in Anatomy. George H. Hoxie.
145 Septic Infection. H. J. Stacey.
146 Diagnosis and Treatment of Fistula in Ano. J. M. Poindexter.

### Medical Times, New York.

*January.*

147 Notes on Management of the Insane. Q. W. Hunter.
148 Recent Researches in Nervous Diseases. C. Williams.
149 Remarks on the Etiology and Diagnosis of Puerperal Sepsis. N. Schilling.
150 Forceps and Other Mechanical Aid in Obstetrics: Use and Abuse. W. A. Rohlf.
151 Heart Conditions Due to Anemia and High Arterial Tension. M. Shellenberg.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal, London.

*January 9.*

1 *Address on Operative and Expectant Treatment in Ectopic Pregnancy. G. Ernest Herman.
2 *Abdominal Operations During Pregnancy. Edward T. Thring.
3 Operative Treatment of Uterine Myomata. Roderick Maclaren.
4 *Forcible Dilatation of the Cervix in Accouchement Forcé, More Especially by Means of the Bossi and Frommer Dilators. J. M. Munro Kerr.
5 *Observations on the Pathogenesis of Gout. Chalmers Watson.
6 Glandular Fever. John W. Byers.
7 Notes on the Distribution of Cancer in the Freebridge Lynn Rural District. Charles B. Plowright.
8 A Note on Dr. Primerose's Paper on Filariasis. Patrick Manson.
9 The Life-span of the Guinea Worm. Arthur Powell.

1. **Ectopic Pregnancy.**—The importance of early operation in ectopic pregnancy is pointed out by Herman, who thinks that even the inexperienced in surgery who is posted as to antiseptic methods should not hesitate to operate in emergencies, and especially in the case of great intraperitoneal bleeding. In the case of tubal mole, absorption usually takes place, but the danger of removing one is far less than that of leaving it. As regards the operation, he prefers the vaginal method as avoiding shock and exposure of the intestines. If the case passes to the second half of the pregnancy the danger diminishes. From the end of the first half of the ectopic pregnancy until the beginning of suppuration, the patient is in practically no danger. When spurious labor takes place the placenta usually becomes thrombosed and the danger of operation is lessened, but we can not tell how soon this may occur. When suppuration is begun, however, as indicated by the presence of fever, there should be no delay. The results of operation under such conditions ought to be as good as under those of abdominal operations generally. In case the child develops in the broad ligament it may be best to open the sack by a vaginal incision, thus avoiding infection of the peritoneum; the placenta need not be removed. Herman does not, however, advise vaginal operation unless it is certain that the tissues between the vaginal canal and the fetus are thin and that one end of the fetal ovoid points downward; still less if there is doubt as to the diagnosis.

2. **Abdominal Operations During Pregnancy.**—Thring concludes from his experience that all cases of acute infective diseases during pregnancy involving either the appendix, the tubes, the gall bladder or the bile ducts, should be treated as if the pregnancy did not exist. In this way we act in the best interest of the patient and their unborn children. Three cases are reported.

**4. Forcible Dilatation of the Cervix.**—Kerr states his views as regards Bossi's or Frommer's dilator as follows:

1. When the cervix is obliterated and the os will admit the dilator without difficulty, dilatation can be carried out in about twenty-five minutes, and there will be little or no laceration.

2. In cases where the pregnancy has advanced to or near term, even although the cervix is not obliterated, dilatation may be accomplished with comparative safety to the cervix, provided care, time and patience are expended in the operation.

3. In cases of early pregnancy with the cervix unobliterated there is a decided risk of extensive lacerations, even though the greatest care is taken.

**5. Gout.**—Chalmers Watson has utilized a case of gout occurring in the barn-yard fowl as bearing on the question as to the toxic principle and factors of the disease. This paper is illustrated with microscopic sections, and the conclusion he reaches favors the theory of an infection by bacteria or their products. He thinks that the clinical features of gout in all its forms are explained best by this theory which does not, however, by any means diminish the importance of the attention to dietetics in the treatment of the disease.

### The Lancet, London.

*January 9.*

10* Address on the Future of Electro-therapeusis. Isambard Owen.
11* Sterility. Peter Horrocks.
12 Seven Cases of Cesarean Section. J. B. Hellier.
13* Kelly's Method of Cystoscopy in the Female. Thomas Wilson.
14 Glandular Fever. John W. Byers.
15* Pathogenesis of Deafness due to Chronic Non-suppurative Middle-ear Disease. D. Chalmers Watson.
16 The Operative Treatment of Hernia in Infants and Young Children, Illustrated by 114 Consecutive Cases. Robert Campbell.
17* Tuberculosis of the Tonsils in Children. L. Kingsford.
18* Preliminary Note on the Prophylactic Action of Garlic against Tuberculous Diseases. Giulio Cavazzani.

**10. Electrotherapeusis.**—Owen thinks that much of the present literature of electrotherapeutics will be relegated to obscurity, but that there is a certain residue of established facts. He mentioned as included in this, the work with the *x*-rays, the subject of phoresis, which he thinks has yet to be developed, and the part that electrotherapeutic work has played in bringing about a fuller consideration of the physical forces which have to do with the intimate life of the cell.

**11. Sterility.**—Horrocks reviews the whole subject of sterility, showing the essentials of fecundation; a living ovum and spermatozoon which shall meet and coalesce in a suitable place and that the ovum after impregnation shall be in a healthy uterine cavity, where there is nothing to prevent its developing. As regards treatment, he thinks that many cases can be left alone, at least until sufficient time has elapsed to demonstrate the absoluteness of the condition. Spare diet and plenty of exercise will favor fertility, and if the patient has not been healthy suitable tonics may be given. Change of climate and environment has also been beneficial, and if there is any suspicion of specific disease the proper treatment should be advised. Local diseases of the genitals, such as ovaritis, endocervicitis, etc., may call for special measures. Regular natural habits are mentioned as also essential. It should be remembered that in a certain proportion of cases the sterility is on the part of the husband, and this matter should also be investigated.

**13. Kelly's Method of Cystoscopy in the Female.**—Wilson advocates Kelly's method of cystoscopy of the female bladder with air dilatation, as a valuable diagnostic method. It often prevents an erroneous opinion and frequently renders more definite a partial correctly formed conclusion.

**15. Deafness from Chronic Ear Disease.**—Watson believes in a closer and more systematic study of all cases of deafness due to chronic non-suppurative middle-ear disease as leading to a reversal of the opinion generally held as to the absence of clinical indications of catarrh in the group of cases variously described as sclerosis of the middle-ear, atrophic catarrh, otosclerosis, etc. Cases seen only at rare intervals will not suffice. If the known facts of morbid anatomy and pathology of cases of chronic non-suppurative middle-ear disease are brought into line with similar facts in the pathology of other mucous membrane and joint structures the impression is forced on us that the different conditions described are only variants of one morbid process. In over 200 cases observed by him, in every case there was either a clear history of frequent colds in the head or, in patients who definitely declared they were not subject to colds, unequivocal evidence of an intercurrent catarrh in the course of the few weeks in which these patients were daily observed. They had not taken due notice of themselves. He has also called in comparative pathology and studied the conditions in deaf dogs. He believes that we have in all cases to do with local reaction to bacterial invasion by way of the eustachian tube. We must also bear in mind the possibility of infection by means of the blood, which probably is a factor in many cases.

**17. Tuberculosis of the Tonsils.**—From the cases here reported and from the investigations of others, Kingsford deduces the following conclusions:

1. Tuberculosis of the tonsils, especially in cases with tubercle elsewhere, is fairly common, though the disease is usually latent. 2. Tonsil tuberculosis may be primary, and, indeed, the only seat of the disease in the system, though this is rarely the case. 3. The usual method of infection is by the blood stream in children from an older focus elsewhere. 4. Infection may also occur by the sputum in children. 5. When the tonsils are tuberculous the corresponding cervical glands become affected, and, 6. sometimes where it is probable that the infection entered through the tonsils they were quite healthy, but the adjacent cervical glands were tuberculous.

**18. Garlic in Tuberculosis.**—Alluding first to a former paper in which he had published the favorable results obtained in treating pulmonary phthisis with garlic, Cavazzani reports the results of experiments of garlic feeding of guinea-pigs. In eight guinea-pigs he insufflated dried and powdered tuberculous sputa into the larynx and kept the animals two days longer in a room impregnated with the same powder. Two guinea-pigs were kept as controls, while three of the remaining six were fed with one grain daily of garlic juice for a fortnight, and the other three received the same quantity for about three months altogether, then the animals were killed. The two control cases were tuberculous throughout the abdominal organs and the lymphatic system and the *Bacillus tuberculosis* was isolated. In the bodies of the three animals which had been treated with garlic for a short period he found from ten to twenty tubercles in the liver and spleen. Microscopic examination did not reveal the bacillus but showed the presence of young connective tissue in the tubercles. In the other three that had been treated longer with garlic, no tubercles were found after the most minute examination. While the small number of experiments prohibits the drawing of conclusions, Cavazzani says that if further experiment in this line should bear out these results and prove that guinea-pigs at least can be prevented from contracting inhaled tuberculosis, it may suggest the possible discovery of a treatment for the human species.

### Indian Medical Gazette, Calcutta.

*December.*

19 The Biological Disposal of Sewage. E. C. MacLeod.
20 Malaria: As Seen in the Andamans Penal Settlement. (Continued.) Ernest E. Waters.
21 The Health of the District of Jessore, and how to Improve it. H. Sen.
22 *Suicidal Hanging:* Deaths from the Secondary Effects. J. T. Calvert.

### Australasian Medical Gazette, Sydney.

*December 21.*

23 Abdominal Operations during Pregnancy. E. T. Thring.
24 Some Surgical Experiences during the South African War. W. B. Nisbet.
25 Acute Septic Infection of the Left Temporal Bone, Occurring during an Attack of Measles. W. F. Taylor.
26 Aural Discharges. W. N. Robertson.
27 Fatal Icterus Neonatorum. A. A. Lendon.
28 Some Common Causes of Backache. George Cuscaden.

### Intercolonial Medical Journal of Australasia, Melbourne.

*November 20.*

29 Typhoid Fever. A. V. M. Anderson.
30 Cesarean Section. M. U. O'Sullivan.
31 *Post-nasal Growths:* A *Rejoinder.* T. K. Hamilton.
32 Two Cases of Hypertrophic Stenosis of the Pylorus in Infants. E. Alan Mackay.
33 Three Eye Cases. (Traumatic Cataract, Traumatic Cataract, with Extensive Posterior Synechiæ, etc). J. P. Ryan.

### Bulletin de l'Acadêmie de Mêdecine, Paris.

34 (LXVII, No. 41.) Prizes Awarded in 1903 and Prizes Offered for Competition in 1904, 1905 and 1906; 40 to 50 Each Year; Competition Open to Foreigners. See THE JOURNAL January 9, page 108.
35 (No. 42.) Inhalateur d'oxygène. Guglielminetti (Nice). Illustrated.

36 Tuning Fork in Exploration of Certain Organs. M. Mignon (Nice).—Emploi du diapason dans l'exploration de quelques organes.
37 *Treatment of Nephritis with Raw Kidneys. J. Renaut (Lyons).—Pouvoir sécrétoire et signification glandulaire des épithéliums des tubes contournés du rein, et valeur therapeutique de leurs préproduits solubles dans l'eau.
38 Report of Delegate to International Sanitary Conference, Oct. 10 to Dec. 3. 1903. P. Brouardel.
39 (No. 43.) Sur les quarantaines et le lazaret de Frioul. Discussion.
40 Répartition de la maladie du sommeil dans le Gouvernement général de l'Afrique occidentale française (sleeping sickness). Kermorgant.

37. **Organ Treatment of Nephritis.**—Renaut explains his conception of the mechanism by which the soluble and dialysable preproduct of the kidney secretion is elaborated. He regards this preproduct as a sort of antitoxin, and as antitoxin is not destroyed or modified in passing through the digestive tract, he believes that it is possible to supply the system with this preproduct or antitoxin in cases in which its production is interfered with by morbid conditions in the kidney. He and his pupils have established the existence of what he calls grains of segregation which accumulate in the supranuclear region of each epithelial cell in the convoluted tubules. These are accepted as the preproducts of the secretory activity; they include figured and spherical as well as fluid elements. If the convoluted tubule is dissolved in physiologic salt solution these yellowish, refracting bodies are plainly visible, resembling the grains of segregation of a serous gland, such as the parotid. They stain well with neutral red. He concludes from his researches that ingestion of these preproducts is an efficient remedy for nephritis. He gives the particulars of three typical cases out of a large number thus treated since last March. The results are tabulated and apparently confirm his assertions that this method of treatment has a rapid diuretic effect, and is one of the most active and effective yet known, even relieving the kidney in extreme anemic edema. When sufficiently prolonged it restores urination to normal and keeps it there, without having the slightest unfavorable action on the diseased kidney. It invariably reduces the proportion of albumin eliminated by the insufficient kidney. The only untoward effects observed from its prolonged use are occasional subtoxic symptoms (urticaria, sweats, slight gastric disturbance), but all are trifling. The process of disintoxication proceeds progressively and regularly, without mishap of any kind. Arterial hypertension and the tendency to passive dilatation of the heart have always receded under its influence when kept up long enough. He urges its early use in all cases of nephritis as an adjuvant to the usual measures, when the latter are not accomplishing all that could be desired. He prepares the remedy by chopping two or three fresh kidneys (pigs'), rinsing well to remove all the urine that may be still clinging to them. He then grinds the chopped organs and mixes them with 450 c.c. of a 7 per 1,000 salt solution which does not dissolve the grains of segregation at once. After thorough mixing, the dish is placed on ice for four hours and the supernatant fluid is then decanted and taken by the patient in three or four doses during the twenty-four hours. This maceration of the kidneys has no unpleasant taste, but to overcome any possible repugnance he orders it to be taken from a cup and a tablespoonful of tepid julienne soup added. After taking this maceration, prepared fresh every day, for ten days, it is suspended for five, which avoids the slight symptoms of subintoxication above mentioned. They indicate that the remedy is very powerful and similar in its action to that of therapeutic serums. The cases he describes in detail include one of chronic mixed nephritis, one of the interstitial type and one of cardiac albuminuria with cardiac kidney. The particulars are given in detailed tables and the prompt and enduring benefit derived from persevering use of the kidney maceration seems to be unmistakably apparent.

### Beiträge zur klin. Chirurgie, Tübingen.

*Last indexed XLI, page 1564.*

41 (XL, No. 1.) *Surgical Treatment of Perforation of Stomach. C. Brunner.—Weitere klinische Beobachtungen über Aetiologie und chirurgische Behandlung der Magenperforation und Magenperitonitis.—Ergebnisse der bakteriologischen Untersuchung bei Magenperitonitis.
42 Ibid. Experimental Research.
43 Entzündung und Gangrän des Meckel'schen Divertikels. H. Hilgenreiner (Prague).
44 Penetrating Lymphatics of Diaphragm. H. Küttner (Tübingen).—Die perforierenden Lymphgefässe des Zwerchfells und ihre pathologische Bedeutung.
45 *Ueber Stich- und Schuss-Verletzungen des Thorax. C. Borszky (Ofen-Pest).
46 *Wund-Behandlung nach biologischem Prinzipe. L. Ibrig. (Ofen Pest).
47 *Ueber die suprakondyläre Osteotomie des Femur bei Genu valgum, mit bes. Berücksichtigung der definiten Knochen-Form. M. von Brunn (Tübingen).
48 (No. 2.) *Thrombosen und Embolien nach Laparotomien. G. Albanus (Hamburg).
49 *Surgery of Stomach. R. Stich (Königsberg).—Zur Magenchirurgie.
50 Case of Multiple Bone Cysts. H. Heineke (Leipsic).—Fall von multiplen Knochencysten.
51 Zu den retropharyngealen Tumoren. C. Brunner.
52 *Hygrom der Bursa trochanterica profunda. O. Lipffert (Tübingen).
53 *Accidents from Agricultural Machines and Their Prevention. B. Honsell (Tübingen).—Ueber Unfälle durch landwirthschaftliche Maschinen und ihre Verhütung.
54 (No. 3.) *Origin and Spread of Peritonitis, Especially the Appendicitic. P. Meisel (Freiburg).—Ueber Entstehung und Verbreitung der Bauchfellentzündung mit bes. Berücksichtigung der vom Wurmfortsatz ausgegangenen Entzündungen.
55 Artificial Substitution of Blood. H. Küttner (Tübingen).—Exp. Untersuchungen zur Frage des Künstlichen Blutersatzes.
56 Ueber die juvenile Osteoarthritis deformans des Hüftgelenks (of hip joint). M. v. Brunn.
57 Die Aneurysmen der Arteria occipitalis. A. Kappis. One case.
58 Ueber Cephalocele naso-frontalis. M. A. Ssamoylenko (Heidelberg).
59 Die Dauererfolge der Orchidopexie nach Nicoladoni. O. Burkard (von Hacker's clinic, Graz).
60 Zur Statistik des Carcinoms der Unter-Lippe. H. Ebel (Wölfler's clinic, Prague).

41 and 42. **Surgical Treatment of Perforation of Stomach.**—Brunner reports one patient saved by operative intervention out of 6 patients operated on. All such cases in which no operation was performed terminated fatally. The interval ranged from sixteen to thirty hours. In the consequent peritonitis he generally found polyinfection with streptococci and colon bacilli predominating. He was able to cultivate also some anaërobic bacilli. He further reports numerous experiments with injection of human stomach content into rabbits. Comparatively large amounts of acid gastric juice were tolerated without inflammation. An amount of 4.5 c.c. was tolerated always without reaction; he injected as much as 40 c.c. in some of his tests. Thirty-three of the 44 rabbits thus inoculated survived. Injections of stomach content in which gastric juice was lacking almost invariably induced symptoms of peritonitis within three and three-quarter hours. Bacteriologic tests of the stomach content showed much less bacteria in the stomach content in cases of pronounced motor disturbances accompanied by hyperchlorhydria than with deficient or missing gastric juice secretion. Surgical intervention, in his experimental research, resulted more favorably the earlier it was undertaken after the perforation. He is convinced that stomach content containing hydrochloric acid is much less dangerous from the standpoint of infecting the peritoneum after perforation than when there is little or none of the acid. His experience also confirms the advantages of multiple drainage after suture of a perforated ulcer, draining both at the sides and over the symphysis.

45. **Wounds of the Thorax.**—Borsziky's experience impels him to the view that expectant treatment of injuries of the lungs does not afford such bad results and radical intervention does not afford such good results that the latter method of treatment should be preferred to the former in all cases. More than 342 stab or firearm wounds of the thorax have been treated at the Ofen Pest clinic during the last ten years. All but 4 recovered out of the 42 stab wounds and all but 11 of the 89 firearm wounds.

46. **Treatment of Wounds on Biologic Principles.**—Ibrig remarks that we have no means to arrest nor to attenuate already established infection in a wound which does not at the same time destroy or reduce the vitality of the living tissue cells. The latter are the sole protecting agents, and everything should aim to favor them in their vital task of combating the infection. Anything that tends to reduce their vitality arrests the natural defensive processes of repair and promotes the infection, as the latter thrives best on degenerated cells. For

these reasons he rejects sublimate and carbolic acid, and devotes his attention to removal of all devitalized tissue, mechanical cleansing of the parts and keeping germs away from them. He prefers a solution of CaCl .03 per cent.; $NaHCO_3$ .04 per cent. and sodium chlorid .9 per cent. This aids the physiologic processes without impairing the vitality of the cells.

47. **Osteotomy in Genu Valgum.**—Since 1878 there have been 172 operations performed at von Bruns' clinic on 138 patients on account of genu valgum. In the 147 linear supracondylar osteotomies the operation was done on both sides in 29 instances. The remote results in 22 cases have been so encouraging that this operation may be regarded as ensuring very good results, both from the functional and cosmetic points of view. Radiography shows that the desired result is attained more completely the more plastic the bones at the time. A modification of Macewen's technic is preferred, using a small chisel and working from the inner aspect. Constriction of the limb is not necessary. The operation concludes with fracturing the external corticalis by leverage in such a way as to increase the outward angle. No untoward effects were noted in any instance.

48. **Thrombosis and Embolism After Laparotomies.**—Albanus reviews the 53 cases of thrombosis which occurred at the Hamburg Hospital in six years in the 1,140 laparotomies. Pulmonary embolism followed in 18.9 per cent. of the cases. In 26 out of the 53 the operation had been undertaken on account of a tumor; in 18 for a suppurative process, and in 10 for appendicitis. Almost 50 per cent. of the cases of thrombosis were followed by embolism, that is, in 23, and 10 of these terminated fatally. Most of the subjects were between 31 and 40, and the majority were women. The percentage was thrombosis in 4.64 per cent. of the 1,140 laparotomies. In 2 per cent. there was serious pulmonary embolism. When the latter has occurred treatment should aim to prevent infection from septic air, and further embolism by absolute repose. When thrombosis is noted, everything tending to excite the heart and all mechanical influences should be avoided. In the above cases the operation had been very protracted in more than 50 per cent. In only a few instances was more than 50 gm. chloroform used. The veins in the left leg seem most predisposed. Preceding heart disease had been noticed in 7 cases.

49. **Surgery of the Stomach.**—In this article Garré's technic, accepted indications and results are described in detail, with a review of the literature. The material embraces 109 cases of cancer operated on and 50 not, with 63 benign stomach affections operated on and 30 unoperated ones. He operates in case of an ulcus when there is suspicion of cancer or perforation, in case of a repetition of acute hemorrhage or constantly recurring smaller ones, and when three systematic "ulcer cures" have not afforded appreciable relief. Also in case of extreme cicatricial constriction of the pylorus, in severe gastralgia from adhesions or ulcer and atonic conditions of the stomach, especially with pronounced dilatation of the organ. He prepares the stomach with a preliminary five to eight days' course of light diet, with nutrient enemata and injections of salt solution if needed. In case of carcinoma the stomach is given a daily rinsing. He prefers ether, and adds a few drops of ol. pini pumilion. to reduce the secretions, giving 1 to 2 cg. morphin half an hour to an hour before long operations, ice and cold tea soon after the operation, and milk the second day. He lays great stress on immediate saline infusion and rectal injection. The article concludes with a tabulation of similar statistics from 15 other clinics.

52. **Hygroma of Deep Trochanteric Bursa.**—Lipffert has observed 3 cases recently at Tübingen. In 2 the hygroma was of tuberculous origin as in 116 others on record; in 7 the affection was of traumatic, and in 1 of rheumatic origin. One of his patients was a man of 56, with two large tumors of this kind. Lipffert emphasizes the necessity for total extirpation.

53. **Accidents from Agricultural Machines.**—Honsell analyzes 176 cases, and urges the necessity for more and better protecting devices against accidents from feed-cutters, etc. He also remarks that the place where the machine has to stand may also be one of the factors in such injuries.

54. **Study of Peritonitis.**—This extensive monograph, with its wealth of details and practical suggestions, is too comprehensive for a brief summary.

### Deutsches Archiv f. klinische Medizin, Berlin.

*Last indexed XLI, page 142.*

61 (LXXVIII, No. 3-4.) *Study of Scarlet Fever, Especially the Blood Findings. G. Jochmann (Hamburg).—Bakteriologische und anatomische Studien bei Scharlach mit besonderer Berücksichtigung der Blutuntersuchungen.
62 Fever and Glycogen Metabolism. Rolly.—Exp. Untersuchungen über Wärmestich-Hyperthermie und Fieber, mit bes *Berücks. des Glykogenstoffwechsels.*
63 *Ueber Palpation und Auskultation des normal grossen Pylorus und deren Bedeutung für die sogen. Phantom Tumoren im *Abdomen. P. Cohnheim (Berlin).*
64 *Influence of Water, Albuminoids, Carbohydrates and Fats on Secretion of Gastric Juice in Man. G. Lang (St. Petersburg).—Ueber den Einfluss des Wassers, etc.
65 Temperature of Skin in Febrile Conditions. T. Grünenwald (Tübingen).—Ueber Hauttemperaturen bei fiebernden Kranken.
66 Ueber Myasthenie und myasthenische Reaktion. H. Steinert (Leipsic). One case.
67 Ueber Eventratio diaphragmatica. F. Glaser (Berlin). One case.
68 Origin of Glycogen in Body Albumin. C. Hirsch and Rolly (Leipsic).—Zur Frage der Entstehung von Glykogen aus Körpereiweiss.
69 (Nos. 5-6.) *Die Aetiologie und Pathogenese der Aorten-Aneurysmen. H. Arnsperger (Erb's clinic, Heidelberg).
70 Klinische Untersuchungen über den osmotischen Druck des Blutes (osmotic pressure of blood). A. Landau (Dunin's clinic, Warsaw).
71 *Theorie und Praxis der Behandlung eingeklemmter Brüche durch Atropin (incarcerated hernia). Hagen.
72 Pathologische Vererbung und genealogische Statistik. W. Weinberg (Stuttgart).
73 Ueber Pubertäts-Albuminurie. F. Lommel.
74 Ueber traumatische Lungen-Hernien ohne penetrierende Thorax-Wunde. A. Bickel (Ebstein's clinic, Göttingen).
75 Eustrongylus gigas im menschlichen Harn-Apparat mit einseitiger Chylurie (in urinary apparatus). Stuertz (Berlin).
76 Zur Symptomatologie der Nieren-Venen-Thrombose. H. Reese (Basle).

61. **Study of Scarlet Fever.**—Jochmann's research revealed the presence of streptococci in the blood of 25 out of 161 scarlet fever patients examined in the clinic. He also found streptococci in 75 per cent. of the scarlet fever cadavers examined. On the other hand, he encountered cases in which it was impossible to discover streptococci in the blood, tonsils or elsewhere in the living subject or the cadaver, especially the fulminating cases. He infers that the streptococci play an important part in the evolution of scarlet fever, but that they can scarcely be the true causal agent. The lesions and symptoms induced by the streptococci frequently overshadow the true scarlet fever process, but to date nothing is on record which establishes their etiologic connection with it. In nearly every instance he could trace the mode of entrance of the streptococci into the blood from the necrotic tonsil or soft palate into the submaxillary glands and thence into the general circulation. He never found any streptococci in the blood the first or second day of the disease. When streptococci are found in the blood the child has only a day or two to live—according to his experience. Streptococcus infection was not responsible for the nephritis in a number of cases in which it developed during the third week.

63. **The Normal Pylorus and Phantom Tumors in Abdomen.**—Cohnheim calls attention to the possibility of palpating the normal pylorus in certain subjects, usually those in whom the muscles are relaxed or where there is much emaciation. The subject lies horizontally, relaxing the epigastrium as much as possible, and drinks a glass or two of water. In favorable circumstances it is then possible to see the pylorus protrude, forming a tumor as large as a walnut, which travels upward two or three finger-breadths and then vanishes. When the phenomenon is not visible it can generally be palpated or the sound of the fluid passing through the pylorus be auscultated. There is no pain, and as the subjects grow fatter the phenomenon can no longer be detected. In 1 of his 16 subjects the normal pylorus was permanently palpable, owing to its large size. In general, however, a permanent lump at the pylorus indicates malignant disease.

64. **Influence of Various Substances on Gastric Secretions.**—In order to eliminate the influence of taste, appetite, etc., the substances tested were introduced into the stomach through a

stomach tube. Neither water, carbohydrates nor fats induced any appreciable secretion of gastric juice, but this always followed introduction of albuminoids. The latter are, therefore, the exclusive direct stimulators of the gastric juice secretion.

69. **Pathogenesis of Aneurism of Aorta.**—Six pages are devoted to the bibliography and nearly seventy to a review of it and discussion of 35 cases personally observed. The conclusions may be summarized almost in the one word: syphilis.

71. **Atropin in Case of Incarcerated Hernia.**—Hagen is an advocate of injecting belladonna or atropin when gentle taxis shows that the hernia is irreducible. He then waits one hour and applies gentle taxis once more. If it fails, he repeats the dose of the above. If two or three of these hourly doses fail to produce the desired effect he then operates, not waiting longer than six to eight hours at most. Atropin has proved particularly useful in elderly patients, saving them an operation. He describes 19 cases out of his experience with 41 during thirty-nine years, to confirm his claims as to the wisdom and efficacy of the above line of treatment. His experiments on animals have amply established its harmlessness. He prefers the extract belladonn. in the proportion of .1 to 10 or atropin sulph. in the proportion of .01 to 10. The first dose is usually .5 c.c., which may be repeated or doubled for the second dose an hour later.

### Deutsche medicinische Wochenschrift, Berlin and Leipsic.

77 (XXX, No. 1.) *Relations of Anthrax Bacilli to Endothelial Cells in the Mouse and Guinea-Pig Body. E. von Behring and Much.—Ueber die Beziehungen der Milzbrandbazillen zu endothelialen Zellen im Mäuse- und Meerschweinkörper.
78 *Meine Erfahrungen mit dem Moser'schen polyvalenten Scharlach-Streptokokken-Serum. J. von Bokay (Budapest).
79 Exodin, ein neues Abführmittel (new purgative). W. Ebstein.
80 *Has Inflammation of the Cecum Become More Frequent? Villaret (Posen).—Ist die Blinddarmentzündung heute häufiger als früher?
81 Fall von traumatischer Hysterie mit eigenartigen Dammerzustände und dem Symptom des Vorbeiredens (with twilight conditions and inappropriate answering). A. Westphal (Greifswald).
82 *Die Behandlung der Blutungen nach der Geburt (postpartum hemorrhage). H. Fritsch (Bonn).
83 Attempts at Transmission of Syphilis to Animals. A. Neisser and F. Veiel (Breslau).—Einige Syphilis-Uebertragungsversuche auf Tiere.
84 Zur Behandlung des "Fluor albus" mit Vaginal-Zyminstäbchen (Dauerhefestäbchen) nach Albert (compressed yeast pencils). E. Fraenkel (Breslau).

77. **Relations Between Endothelial Cells and Anthrax Bacilli.**—Behring has recently announced in his *Beiträge* (December, 1903) that he has established a remarkable selective action on the part of the infectious substance circulating in the organism. The cells floating in the circulating medium are not the only bearers of the antitoxin, but certain fixed cells also possess this property of producing and storing the antibodies. Furthermore, this property is in the highest degree specific for certain kinds of cells and not for others in relation to a specific virus. For instance, the antibody for tetanus toxin is exclusively to be found in the ganglion cells of the nervous system. This discovery throws new light on the processes of intoxication in general, and the deductions from it have already been amply confirmed by experimental research conducted at Marburg. It has further suggested new improvements in the technic of artificial immunization by which the infectious process can be so guided and controlled that it is not only entirely harmless for the animal but enables the immunizing to be more complete and the production of antibodies materially augmented. He has established, besides, that the affinity between the tetanus toxin and its antibody produced in the ganglion cell does not explain all the phenomena observed after inoculation with tetanus toxin. A third agent must be present by which connection is established between the toxin and the intracellular antibody, as the cells of a battery do not generate electricity until they are connected by a conducting medium. In the living organism the part of the conductor is played by a substance in solution in the axis-cylinder, which serves as a conductor between, to transmit the stored-up energy in the tetanus toxin to the antibody fixed in the ganglion cell. He calls this intermediate substance "C" (conductor). The present article gives the details of the research undertaken to locate the site of the production of the antibody for anthrax bacilli. The results have established that the antibody for anthrax virus is elaborated in the endothelial cells. The conductor in this case he assumes to be a colloid solution of the antibody which exists normally in the intravascular fluids and intracellular tissue juices. The article is accompanied by colored plates to show the various phases of the production of the antibody and its passage into the circulating fluids in a colloid solution after oxyphile degeneration. The blood then acquires the property of agglutinating the bacteria which have induced the oxyphilia. This is evidently the result of specific attraction and a ferment-like, reciprocal action between the animal cell plasm and the vegetable bacteria plasm.

78. **Polyvalent Antistreptococcus Serum in Scarlet Fever.**—Bokay tried Moser's serum treatment in 12 cases, and was very favorably impressed with the results. No ill effect on the kidneys was apparent in any instance.

80. **Statistics of Inflammation of the Cecum.**—Villaret compares the statistics on this subject during the last twenty-seven years, as published by the German military authorities. He finds that all abdominal affections have become less frequent by 44.5 per cent. On the other hand, inflammation of the cecum has increased by 70 per cent.; liver affections have decreased by 64 per cent.; peritonitis by 70 per cent., and chronic stomach affections by nearly 80 per cent. The apparent increase in appendicitis and allied affections is thus merely the result of more careful differentiation.

82. **Treatment of Severe Postpartum Hemorrhage.**—Fritsch commends the advantages of his method of treating severe cases. He massages and pushes the uterus on and above the symphysis pubis and packs the space left with cloths or cotton from the rear, binding them tight with a roller bandage around the abdomen. The abdomen is thus pressed into a funnel shape. The body of the uterus rests on and above the symphysis, and its bleeding walls are pressed so tight together that there is no room for further hemorrhage. All the manipulations are extravaginal, and require no preliminary disinfection. Another method is to close the labia with one hand and push the vulva vigorously upward, exerting counter-pressure with the other hand, for half an hour.

### Therapeutische Monatshefte, Berlin.

*Last indexed XLI, page 1377.*

85 (XVII, No. 9.) *Ueber einen neuen Sphygmographen. G. Gaertner (Vienna).
86 *Pulmonale Narkose. F. Kuhn (Cassel).
87 *Zur Behandlung der Dysenterie in den Tropen. L. Köhler.
88 Trochlear Paralysis with G. Krebs.—Trochlearislähmung bei
89 *Zur Diagnose und Behai Affektionen. (Concluded.) R. Bloch.
90 Ueber die Erweiterung der Cervix mittels Metal-Dilatatoren. R. Katz.
91 *Ueber Salizylsäureglyzerinester (Glykosal). H. Ratz.

85. **New Sphygmograph.**—The principle of the instrument is similar to that of Gaertner's pulse controller described and illustrated in these columns on page 527 of the last volume. The pulse wave is registered in a magnified projection and a curve can be obtained in a few minutes, affording invaluable information in regard to the pulse. It may be expected to be small when the arteries are naturally narrow or inelastic, when the tonus is high or the systolic maximal pressure is low. The latter depends on the average blood pressure and likewise on the amount of the variations in the pulse.

86. **Lung Narcosis.**—Kuhn here suggests and commends his method of intubation through the nose or mouth deep into the throat as a means of introducing the anesthetic directly into the lungs. By this means it does not come in contact with the throat or nose, and reflex action is eliminated. Much smaller amounts are required, and there is no vomiting.

87. **Treatment of Tropical Dysentery.**—Köhler of Caracas, Venezuela, has derived great benefit from an infusion of cortex granati, cortex simarubæ and Campechy wood. They are used alone or in combination by the native physicians, and the failure of the classic methods of treatment he had learned at home, compelled him to try this South American remedy. Improvement was always marked within twelve hours, and he

never witnessed any untoward effect or intolerance in hundreds of cases thus treated. Water is poured over the roots broken up into small pieces, and the dish is set in the sunshine. It is ready to use by the end of the day. One tablespoonful is taken every twelve hours, with a daily injection of a quart of sterilized water. No food is allowed but boiled milk.

89 and 91. **Glykosal in Rheumatism.**—Bloch and Ratz in a following article extol the efficacy of this glycerin ester of salicylic acid. Bloch asserts that if it does not cure the pain the latter is certainly non-rheumatic.

### Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

*Last indexed XLI, page 1508.*

92 (L. No. 2) *Zur Pathologie der Neonatorum: 3 Fälle von Tod sub partu oder unmittelbar pos[illegible] beim Neugeborenen; Cyclopos. F. I[illegible]
93 Fall von Endothelioma ovarii [illegible] E. Schürmann.
94 *Ueber die Kombination von Carcinom und Tuberkulose des Uterus. J. Wallart.
95 Lipoma fibro-myomatosum uteri. O. Seydel (Berlin). Two cases. Eleven on record.
96 Zur histologischen Diagnose des Abortes. L. Seitz. Reply to E. Opitz.
97 *Curability of Carcinoma. R. Lomer (Hamburg).—Zur Frage der Heilbarkeit des Karzinoms.

92. **Pathology of the Newly-Born.**—Among the cases described by Hammer are 3 in which the death of the infant during or immediately after birth might have proved puzzling in a forensic case. In one, degeneration of the heart muscle was found and in another indications of a chronic inflammation of the placenta. In the third, nothing could be discovered, even with the microscope, in the fetus or placenta to which the immediate death could be attributed. A case is described in which an angioma cavernosum in the liver of a seven days' infant was discovered only with the microscope. In the case of the cyclops described, the infant bore no other trace of malformation.

94. **Combination of Tuberculosis and Carcinoma.**—Wallart has observed 3 cases of this combination, and reviews 54 works that have been published bearing on the same subject. In only one of his 3 cases were the two affections so strictly localized and so remote that the coincidence must have been casual.

97. **Curability of Cancer.**—Lomer's article has been already mentioned in these columns, page 207. He has found recorded in the literature 213 cases of carcinoma treated by electro- or thermo-cauterization in which there had been no recurrence after a minimum of two years; the interval was more than five years in 149 cases. This list includes a large number that had been previously branded as inoperable, and the success of his intervention surprised the operator, who had applied the actual cautery merely *ut aliquid fiat*. Such instances establish the fact that the body is sometimes able to cope with the relics of a carcinoma focus. In certain cases fever seems to have co-operated in this favorable outcome. The facts observed suggest that a febrile course after a cancer operation or as a symptom of some accidental infectious disease or severe burn seems to have promoted the healing process. The successful results observed after inoculation with erysipelas, streptococci or malaria are probably due to the accompanying febrile temperature. He mentions the toleration of cancer subjects for extensive losses of blood, and the fact that robust, plethoric individuals seem the most predisposed to rapid recurrence. Profound changes in the composition of the blood seem to have a curative tendency in cancer cases. These premises suggest the possible efficacy of serum treatment with an anticancer hemolytic or epithelium serum. Researches in this line are now under way, but Lomer says that they have not progressed sufficiently for publication as yet. The aim of treatment should be to induce in the organism conditions similar to those that prevail during the natural healing process when the body is annihilating the relics of a cancer focus. If cases in which this has occurred are studied more closely, it may be possible to discover some of these conditions and reproduce them artificially. The article concludes with Lomer's own experiences and statistics. Among the cases he describes is one of a recurring cicatricial mammary cancer. One-half of the new growth was extirpated; the remaining half was treated by a row of injections of his epithelial serum around it, as also an enlarged gland in the axilla. Both entirely retrogressed under this local treatment. Possibly any other serum might have been as effective, he says, but this and other cases establish the possibility of retrogression of a cancer. He outlines his theoretical plan of treatment as: 1. Systematic, repeated thermocauterization of every suspicious point in the cicatrix after extirpation of operable growths, and repeated applications in the inoperable cases. The patients must be supervised at six-week intervals at farthest. 2. Local applications of heat, sweat or light baths or girdles, and hot compresses after extirpation. 3. Energetic arsenic medication at once, supplemented by potassium chlorate. Commenced at once, arsenic offers better prospects of efficacy than after a recurrence has already developed. 4. Systematic irrigation of the vagina with a solution of potassium chlorate. 5. Injections for the purpose of inducing fever, possibly of staphylococcus toxin. This is merely an outline of treatment tentatively suggested by his research. His actual experience has repeatedly shown that after two or three applications of the searing iron a previously inoperable cancer could then be successfully extirpated. He has one patient cured for five and a half years after thermocauterization and extirpation of a cancer, and then of its recurrence. As he reviews the literature he notes that the occasional long survivals are always regarded as "accidental cures." The laws governing them have yet to be determined. Among the principal problems now pressing for solution are: 1. The action of epithelium serum and hemolytic human serum on visible carcinoma. 2. Whether leucocytosis occurs in cancer subjects, and especially whether it occurs independently of ulceration. 3. The behavior of cancer subjects in regard to soluble bacterial toxins (tuberculin, staphylotoxin). 4. Whether the causes of the lesser tendency of cancer subjects to acquire infectious disease are due to a histogenic, bactericidal or antitoxic immunity. 5. Whether the blood of cancer subjects contains toxic substances which induce cachexia (study of the isotoxins) and hemolytic and agglutinating substances in comparison with normal human blood. 6. Treatment of carcinoma subjects with organic and anorganic blood poisons (potassium chlorate, arsenic, pyridin or phenylene diamin), and, 7, behavior of the resistance of the red corpuscles of carcinoma subjects *in vitro*, in respect to various blood poisons.

### Zeitschrift f. klinische Medizin, Berlin.

*Last indexed XLI, page 1309.*

98 (L. Nos. 5 6.) Distribution of Nitrogen in Pathologic Urine. M. Halpern.—Zur Frage der Stickstoffverteilung im Harn in pathologischen Zuständen.
99 *Fluids in Dietetics of Kidney Affections. L. Mohr and C. Dapper.—Ueber den Einfluss vermehrter und verminderter Flüssigkeitszufuhr auf die Funktion erkrankter Nieren.
100 Tumors in Small Intestine. C. Gutmann.—Multiple Dünndarmgeschwüre, höchst wahrscheinlich syphilitischer Natur.
101 Orcin-Iron Chlorid Reaction in Study of Carbohydrates and Albuminoids. M. Bial.—Ueber die Verwendung der Orcin-Eisenchloridreaktion zur Untersuchung von Kohlehydraten und Eiweisskörpern.
102 *Fall von Tetanus. A. Ignatowsky and F. Rosenfeld.
103 Metabolism of Mineral Constituents in Phthisis. A. Ott.—Zur Kenntnis des Stoffwechsels der Mineralbestandtheile beim Phthisiker.
104 *Studien über Nephritis. F. Erben (Vienna).
105 Auscultation of Heart Region. L. Syllaba.—Einige Erfahrungen über die Auskultation der Herzgegend.
106 (LI. Nos. 1-2.) *Experimentelle Studien über die akute Herzdilatation (dilatation of heart). De la Camp (Berlin).
107 Lactic Acid Fermentation in Stomach. G. Sandberg (Cologne).—Zur Bakteriologie der milchsäuren Gärung im Magen mit best. Berücksichtigung der langen Bacillen.
108 *Zur Pathologie und Therapie der [illegible] mit bes. Berücksichtigung der Cyst[illegible] arus.
109 Heart Failure from Diphtheria Toxin. K. v. [illegible]jskal (Vienna).—Kritisch-experimentelle Untersuchungen über den Herztod infolge vo[illegible]
110 (Nos. 3-4.) Ueber die [illegible] ngsprodukte (of products of digesti[illegible] Pavia).
111 Zur Localisation der H[illegible] (Naunyn's clinic, Strasburg).
112 Ueber die Glycogen-Reaction der Leukocyten. J. Sorochowitsch (von Leyden's clinic, Berlin).
113 *Zur Kenntniss des [illegible] mit bes. Berücksichtigung der chronisc[illegible] metabolism in nephritis). E. v. K[illegible] clinic, Berlin).
114 *Eliminating Capacity of the Diseased Kidney. L. Mohr (von Noorden's clinic, Frankfurt a. M.).—Ueber das Ausscheidungsvermögen der kranken Niere.

115 Zur Kenntniss der Erkrankung des Larynx und einer noch nicht beschriebenen Veränderung in der Schleimhaut der Nebenhöhlen der Nase bei Leukämie. K. M. Menzel (Schlesinger's clinic, Vienna).

**99. Fluids in Dietetics of Nephritis.**—It has been found at von Noorden's clinic that restriction of the intake of water had a favorable influence on the subsidence of edema. In both acute and chronic nephritis a moderate ingestion of water—not more than a quart and a half—had a more favorable action on the relations between the intake and output of water than a more copious supply. The elimination of nitrogen and the phosphates was not materially affected by it in acute nephritis and in case of contracted kidney. Restriction of the intake of water to less than 1,250 c.c. interfered with the elimination of these substances. It seems advisable, therefore, to interpose an occasional day of copious drinking in order to flush out these substances when, for any cause, the intake of fluids has to be restricted in general. If the kidneys are functionally insufficient or if there is no accumulation of material for the production of urine, there is no washing out of these substances when this is done. In cases of contracted kidney the albuminuria increases when the water is restricted, as a rule, but subsides again in time. This influence on the albuminuria was not noted in the later stages of acute nephritis.

**102. Formation of Antitoxin in a Case of Tetanus.**—The injection of tetanus antitoxin may prevent the toxin from combining with the cells, but it is powerless to neutralize the toxin already in combination with the nerve centers and other organs. This fact has been confirmed anew by the case described in this article. A woman of 29 succumbed in four days—notwithstanding energetic antitoxin treatment—to tetanus that developed consecutive to an abortion. Examination of the urine, cerebrospinal fluid, serum, spinal cord, liver, brain, kidneys, spleen and thyroid gland, showed an abundance of free antitoxin in the serum and urine, but the toxin was in such stable combination with the organs that large proportions of antitoxin were unable to neutralize it, even *in vitro.*

**104. Chemistry of Blood in Nephritis.**—In a case of parenchymatous nephritis, one of subchronic nephritis and one of secondary contracted kidney, examination of the blood showed a marked deficiency in albumin, as well as other abnormalities. The lack of albumin induces albumin hunger in the cells, which in turn causes a stronger current of blood through them and by reflex influence enhances the heart action, with consequent hypertrophy of the heart. The precipitin reaction in the cases mentioned showed that the globulin in the nephritic urine was mostly normal serum globulin.

**106. Acute Dilatation of Heart.**—De la Camp announces as the summary conclusion of his laborious research that acute dilatation of the heart after maximal physical exertion is never observed except when the integrity of the organ is already seriously impaired.

**108. Pancreas Affections.**—Lazarus traces the history of the pancreas back to Hippocrates and down to Oser's latest work on the subject in 1902. He discusses its topography, and emphasizes the facts that none of the arteries supplies blood exclusively to the pancreas, and that it does not lie between the sheets of the transverse mesocolon, as generally accepted, but rather above it, and between the sheets of the dorsal omentum, which is connected only secondarily with the mesocolon. He reviews the experiences at von Leyden's clinic, Berlin, and tabulates the data of 14 cases, with several cuts. The article is continued through the following number. He noted trauma in the etiology of 30 per cent. of the cases of cyst in the pancreas.

**113. Salt Metabolism in Nephritis.**—This article corroborates the new theories as to the transcendent importance of salt in the diet of certain forms of kidney disease. The elimination of phosphates and sulphates is not modified like that of the chlorids by the nephritis. There does not seem to be any parallelism between the amount of the urine and the percentage of salt in it. We have no grounds for assuming that the output of salt is proportional to the output of water, but the assumption is being confirmed that retention of salt influences the retention of fluids. The percentage of salt in the body fluids in case of edema remains at a constant figure. The percentage in the urine varies with the presence and amount of edema, diminishing as the latter increases and vice versa. Evidence to date shows that the retained salt is stored in the tissues as well as in the body juices. Evidence is also accumulating to show that the retention of salt is the result principally of disturbances in the circulation. This has been established in case of non-nephritic effusions. The amount of salt in the urine in general and during nephritis in particular, may serve as a standard for the severity of the disease. A larger proportion succeeding to retention may be regarded as always a favorable sign. A low percentage, especially when it can not be increased or only temporarily, indicates a more serious condition. The above facts suggest the necessity for expelling the retained salt as an important factor in the formation of edema. The salt can be washed out of the system in most cases by administration of diuretin and heart tonics. The clinical course of a number of cases of nephritis with edema is given in separate tables, proving the remarkable improvement liable to be derived from diuretin combined with digitalis or caffein. The heart tonics alone are able to increase materially the output of salt, and in all forms of nephritis particular attention should be paid to the heart, using heart tonics and other measures for strengthening the heart, with carbonated baths well to the fore. Likewise, in all forms of nephritis, particular attention should be devoted to the intake of salt. The ordinary .91 per cent. saline solution should not be used for infusion in these cases, but always a hypotonic solution, as Senator has already advocated for other reasons. The intake of water should be restricted only to an extent which does not interfere with the excretions and general forces of the organism. If restriction of the amount of water does not accomplish the desired purpose, then the intake of salt should be reduced and its elimination promoted by the above medication.

**114. Eliminating Capacity of Diseased Kidney.**—Mohr gives various tables of the clinical course in several cases of nephritis. Analysis of them shows in common a fluctuating elimination of water, salts and nitrogen, but the elimination of $NH_3$ and of the purin bases was good in each. One case was accompanied by considerable edema and retention of salt. Therapeutic administration of salt in this case was followed by a sudden and enormous elimination of salt, revealing the large amounts that had been retained. On the whole, Mohr accepts as the only fact yet positively established in this line that disease of the kidney may entail retention of any of the elements of the urine, and that the kidney eliminates certain of these elements easier than others. Whether this elective elimination resides in the kidney itself or elsewhere, or in the nature of the substances, is yet unknown.

### Rivista di Patologia Nervosa e Ment., Florence.

*Last indexed XL, page 291.*

116 (VIII. No. 4.) Nuove ricerche sulle vie piramidali nell' uomo. F. Ugolotti.
117 Contributo allo studio anatomo-clinico del lemnisco principale. S. Sergi.
118 Il dermographismo nei pazzi (in the insane). Verga and Gonzales.
119 (No. 5.) Polinevrite ed arterio-sclerosi del sistema nervoso centrale e periferico. F. Franceschi. One case with secondary degeneration of the lemniscus and posterior longitudinal fasciculus; 21 cuts.
120 Contributo sperimentale *allo* studio delle localizzazioni motorie spinali e la metameria secondaria degli arti. G. Perusini.
121 (No. 6.) Sulla minuta strutt[illegible] aria nello stato normale e patolog[illegible]
122 (No. 7.) *Contributo clinico e [illegible] udio dei gliomi cerebrali e all'anatomia delle vie ottiche centrali. R. Righetti. (Commenced in No. 6.)
123 Alcuni casi di pseudo-pellagra in Sicilia. G. Garbini.
124 Del riflesso cremasterico e della contrazione volontaria dei muscoli cremasterici. G. Perusini.
125 (No. 8.) Doubt in Psychasthenia. N. Majano.—Sulla patogenesi del dubbio nelle psicastenie.
126 (No. 9.) Studi sperimentali sulla forma del sollevamento ergografico. L. Lugiato. (Second article in No. 12.)
127 *Epilessia e sieroterapia. G. Catola (Florence).
128 Trichosi lombo-sacrale e spina bifida occulta. G. Garbini.
129 (No. 10.) Tabe incipiente Nevroma ed eterotopia del midollo spinale. Un focolaio de mielite acuta. R. Rebizzi. One case.

130 (No. 11.) *Sulla patologia delle cellule dei gangli sensitivi. E. Lugaro (Florence).
131 (No. 12.) Sopra un alterazione del corpo calloso osservata in soggetti alcoolisti. E. Marchiafava and A. Bignami.

122. **Study of Brain Gliomata and Central Optic Tracts.**—Two cases of *glioma* of the brain were observed at Tanzi's clinic and subjected to minute postmortem examination. The *findings are given in* 16 cuts, with careful analysis of the symptoms and pathologic anatomy. Righetti reviews the literature on the subject and finds 115 cases in which somnolence was mentioned as a prominent symptom of brain tumor. Classifying these cases according to the site of the tumor, he finds that the majority were located in or near the third ventricle and the hypophysis. This suggests a connection between the somnolence and the circulation at the base of the brain.

127. **Serum Therapy in Epilepsy.**—Catola gave Ceni's method of serum treatment of epilepsy a fair trial in 7 cases, but did not find it beneficial. He does not think it conforms to the phenomena of cell biology as we know them, but rather conflicts with our knowledge of these laws. Guidi has reported a severe case apparently benefited, but this improvement, Catola thinks, should be ascribed to the concomitant suppression of alcohol and meat.

130. **Pathology of the Cells of the Sensory Ganglia.**—Lugaro is editor of the *Rivista*, and his article has been running through several years (*V, Nos. 4, 6 and 9; VI, No. 10*, and VII, No. 3). It is profusely and beautifully illustrated with 145 cuts, and is based on both clinical and histologic research and experimentation. He epitomizes his work in the statement that the diverse morphologic types observed in sensory ganglia may be regarded as differing not only anatomically, but also physiologically. They are found in the same proportions in similar ganglia in other subjects and *animals* of the same species, and each responds with a specific reaction after section of the peripheral nerve. The typical reaction is central chromatolysis with displacement of the nucleus, but there are many degrees of these modifications. They are *manifestly* the indices of changes due to the exceptional trophic activity of the cell during the period of the regeneration of the injured nerve fiber.

### Russkii Vratch, St. Petersburg.

*Last indexed page 279.*

132 (II, No. 28.) *Study of Prolonged Alcoholic Hallucinations. S. A. *Sukhanoff and* I. N. Vvedenski.—O zatyazhnom alkoholnom bredye.
133 (No. 29.) Case of Hermaphroditismus Spurius Femininus Externus, and Study of Development of *Hermaphroditismus* in General. N. A. Batueff.—Slutchai lozhnago naruzhnago *zhenskago* hermaphroditizm v svyazi s utcheniem o razvitii hermaphroditizma voobshtche.
134 Artificial Monster. Ibid.
135 Hysterotomia Vaginalis Anterior. S. I. Rosenfeld.—K voprosu o vlagalishtchnom kesarskom syetchenii. Report of 2 cases.
136 (No. 30.) *Study of Diabetic Coma. V. F. Orlovski.—Iz klinitcheskikh nabliudenii *nad tetcheniem diabetitchesko* komy.
137 **Suppuration of* Ovarian Cyst Due to Typhoid Bacillus. P. V. Zantchenko.—K voprosu o briushnotyphoznom nagnoenii yaitchnikovykh kist.
138 *Traumatitcheskii *hydronephroz.* I. I. Ryaboff.

132. **Prolonged Alcoholic Hallucinations.**—A prolonged—almost chronic—stage of hallucinations is liable to follow after attacks of delirium *tremens*—echoes of the preceding disturbances. Sukhanoff and Vredenski had occasion to observe 33 cases of this category among the 4,813 *patients* at the Moscow psychiatric clinic. All but 3 were men. They describe the points in which this condition differs from acute *delirium* and *from* alcoholic melancholia and paranoia, and comment on its curability. Many of the patients become alarmed at the persistence of the "voices," etc., and abandon alcohol completely. Hereditary predisposition was evident in 96.55 per cent. of the cases. Less than 12 per cent. of the 33 cases were educated persons, the majority were day-laborers, farm hands, etc.

136. **Diabetic Coma.**—Orlovski gives in detailed and tabulated form the *analysis* of 3 cases of terminal diabetic coma. The average amount of urine uring the three preceding days and during the coma was 2,617 c.c. and 1,800 in one case; 5,126 and 1,100 in the second and 7,167 and 782 in the third, notwithstanding the large amounts of water *ingested* and injected. The specific gravity of the urine was slightly reduced. In the first case no sugar was to be found in the urine during this period; in the second case it averaged 9.3 per cent. during the three preceding days and 4.65 *during the coma*; in the third case it averaged 8.55 before and 10.75 during the coma. No albumin in urine in the first case and merely traces in the others during the coma, and none during the three preceding days. The pulse during the preliminary period averaged 118, and during the coma 130 in the first case; 78 and 100 to 140 in the second, and 94 and 114 in the third. The respiration averaged 43 in the *preceding period* and 47 *to* 28 during the coma in the first case; in the second, 26 and 22 to 24, and in the *third case* 18 *and* 17 *to* 26. *Diagnosis* of the diabetes from the composition of the urine would have been impossible in one of the cases if the *patient* had not been observed before *the onset* of the coma. His patients were young officers or government officials, 24 and 25 years old. Acetone was present in the urine in both periods in all cases, and aceto-acetic acid was present during the coma in each case, but not during the previous three to six days.

137. **Typhoid Suppuration in Ovarian Cyst.**—Zantchenko refers to 3 cases on record in which an ovarian cyst suppurated and the typhoid bacillus was found in the pus, accompanied by a diplococcus in one instance. The cysts were all of dermoid origin, but in a case he has personally observed pure cultures of the typhoid bacillus were cultivated from a pseudo-mucinous *cyst—the only case of the kind of which* he has knowledge.

138. **Traumatic Hydronephrosis.**—Ryaboff records the case of a lad of 12 who had been kicked in the left side by a horse. The entire abdomen was painful and the boy vomited, with blood in the urine, when first seen the second day, and symptoms of hydronephrosis developed by the twenty-fourth day. After the failure of all other measures, nephrotomy was performed about six weeks after the trauma. A mass of jelly-like substance was removed from the pelvis of the kidney, consisting mostly of fibrin. It was evidently the relics of blood clots and had plugged the opening into the ureter and thus induced the hydronephrosis. Complete recovery followed the operation which was supplemented by copious flushing of the pelvis of the kidney with a solution of boric acid, and drainage. He cites a somewhat similar case that has been published by Parker, although in this latter instance a stone was found in the kidney. In his case there was no stone, but the clotted fibrin would probably have entailed the formation of a stone in time.

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## New Patents.

Patents of interest to physicians, Dec. 15 to 29, 1903:

747138. Disinfectant and making same. Joseph Choulet, Algiers, Algeria.
746791. Obstetrical forceps. Jesse A. Clifton, Orangeburg, S. C.
747157. Sphygmograph. Wm. H. Fahrney, *Chicago.*
746832. Sanitary syrup-receptacle for soda-water fountains. Fred H. Hecker, Chicago.
747068. Indicator for dilators. Carl G. Heynemann, *Leipsic,* Germany.
746841. Stopper for bottles for aerated waters or other liquids under pressure. Francis Iles, Budapest, Austria-Hungary.
747184. Formaldehyde fumigator. Robert W. Johnson, New Brunswick, N. J.
746872. Hernial truss. F. P. McElfresh, Jackson Township, Shelby County, Iowa.
746731. Formaldehyde fumigator. Seth M. Morris, Galveston, Texas.
746749. Nasal medicator. George E. Seidel, *Richmond, Ind.*
747247. Truss pad. Isaac B. Seeley, New York.
747359. Secateur. A. W. A. Barnard and W. G. Reid, Dunedin, New Zealand.
747364. Vaporizer for anesthetics. George L. Bennett, *Chicago.*
747713. Apparatus for dispensing hot beverages. Heber A. Hopkins, West Roxbury, Mass.
747444. Combined syringe and applicator. E. N. La Vetne, Kansas City, Mo.
747742. Anesthetic inhaler. *Edwin Marshall,* Warrensburg, Mo.
747634. Water bag. Harriette E. Peterson, Washington, D. C.
747525. Surgical apparatus. Belle R. Willis, St. Joseph, Mo.
748336. Abdominal bandage. Carrie Babion, *Chesaning,* Mich.
748068. Crutch. J. H. Hammond and W. Bridgewater, Leicester, England.
747972. Surgical operating frame. Rudolph C. Hoyer, Vicksburg, Miss.
748289. Collapsible stretcher. *Emanuel* Kottusch, Zurich, Switzerland.
748413. Disinfecting apparatus. F. C. Nye, Syracuse, N. Y.
748424. Hypodermic syringe. *Arno Schmidt,* Weimar, Germany.
748426. Combined body *brace* and truss. S. R. Shepard, Louisville, Ky.
748227. Atomizer. Ferdinand A. Smith, Los Angeles, Cal.

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## Address.

### GENERAL PRACTICE A CONTINUOUS POST-GRADUATE CLINIC.*

EDWIN WALKER, M.D., Ph.D.
EVANSVILLE, IND.

Both the practitioner and the specialist are compelled to give attention to the whole science of medicine, and after all, they stand on common ground. The ideal practitioner must be quick to recognize the early manifestations of grave diseases which require the specialist's care, while the ideal specialist must as readily diagnose complications which may prove more serious to the individual than the disease he is called on to treat.

The specialist is also dependent on the practitioner for information concerning the ultimate results of his work. He should learn his successes and failures from the practitioner. for, after all, the test of any operation or treatment is the relief experienced by the patient. An operation, no matter how brilliant, is a failure unless it relieves or cures the subject, and the ultimate verdict must come from the family physician.

The general practitioner is first to deal with those cases which require the specialist's care, and on his diagnostic skill and management of the case frequently depends the future of the patient. Let him mistake panophthalmitis for a conjunctivitis, and treat it a few days with eye washes, and the best oculist in the land can not undo the mischief. A suppuration of the mastoid which has already involved the meninges, will baffle the skill of the best-trained otologist.

At a meeting like this, what better service can a specialist render than to familiarize his brother, the general practitioner, with the symptoms which should warn him of danger, and thus teach him to early recognize serious diseases, instruct him in the best method of management while under his care, and counsel him in the treatment of cases which come safely and properly within his province.

Much that has been said of the injustice to the general worker in his relation to the specialist has no foundation in fact. Every conscientious medical man holds the good to the patient as the paramount consideration, and would not undertake to treat him if he could be better cared for by a specialist. None can deny that technical skill is acquired by practice only, and it is impossible for the general worker to attain proficiency in every branch. Yet in many emergencies such skill is indispensable. I have found that those physicians who frankly acknowledge lack of skill in lines of practice unfamiliar to them, and who recommend the sufferers to seek other aid when it is best for them to do so, have held the confidence and respect of their clients. There is nothing more dangerous, in these days of enlightenment, than the assumption of knowledge one does not possess, for exposure is almost sure to follow with corresponding loss of prestige.

Nearly all the members of this association are practitioners, general and special; the men who apply the truths of our science to the relief of suffering humanity. To the student of science surrounded by the best conditions, we must leave most of the work of investigation and higher research. His discoveries come to us for their proof and final test—we are the supreme court—and their value is determined by the results we obtain.

While we give all honor to these workers, we have the satisfaction of knowing that many of the most important advances have been made by men in our class. Huhlings Jackson, by careful study of the form of epilepsy which bears his name, pointed out that there were motor areas of the cerebral cortex, and gave Ferrier the impulse to make the experiments which put cerebral localization on a sure foundation. Ephraim McDowell and Marion Sims, while humble practitioners, were the pioneers in modern surgical advancement.

I wish I had some new discovery or thought to offer you, for what dearer ambition has any of us than that he may add something new to the science we love. Alas! the good fortune falls to but few. The best I can offer is some thoughts which have aided me and formed the motive in my humble work. What I have to say is not new to any of you, and I am glad to add, the same impulses have dominated us all. The rank and file of the profession have been pushing forward to higher ideals, and the average ability of all classes of workers advances materially from year to year.

Mr. Augustus Thomas, the celebrated playwright, in presenting a toast, said he had thought much about what he should say, and had finally determined to express just one idea, and he thought in the roundup of the evening he would average up very well with the other speakers.

The special idea I want to express is the necessity of careful, accurate observation and study of your cases, and above all, the correct diagnosis of each one as a necessary requisite to advancement in your profession.

Experience is valuable in proportion as it is founded on accurate observation. If you incorrectly diagnose your case, how can you draw correct conclusions from your observations and treatment? If your premises are faulty, so also must be your deductions. I have often thought that the experience of the physician who does not thoroughly and thoughtfully study and diagnose tempt something entirely unfitted to your sphere. A method suitable to the student in the laboratory or a clinician in a large hospital would not be the one for the practitioner of the crossroads. Each must fit his methods to his needs. The practitioner remote from large centers must evolve his own system. He must have help; if his practice is large, an assistant or competent nurse should be obtained. It is my belief that in the near future the trained nurse will become in fact a clinical assistant, relieving the busy doctor of many details, as testing urine, stomach contents, and other minor manipulations. Even he who is so remote as to be denied these aids can generally find those in the community who can be taught to take much of the drudgery. Learn to save time and apply it to the essentials, leaving the details to others.

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* President's address at the twenty-ninth meeting of the Mississippi Valley Medical Association at Memphis, Tenn., October, 1903.

## Original Articles.

# THE INFLUENCE OF RESECTION OF THE CERVICAL SYMPATHETIC GANGLIA IN GLAUCOMA.*

WILLIAM H. WILDER, M.D.

Assistant Professor of Ophthalmology, Rush Medical College, University of Chicago; Professor of Ophthalmology, Chicago Policlinic; Surgeon to the Illinois Charitable Eye and Ear Infirmary.

CHICAGO.

This paper does not pretend to be a treatise on the subject mentioned in the title, nor does it assume to give any positive conclusions as to the value of the operation of sympathectomy in glaucoma; for it may be said at the outset that, despite the study of almost all the literature on the subject in its preparation and the collection of published and unpublished data in this country, I feel that positive conclusions are not yet to be reached, and I can only offer this as a contribution that may possibly aid in future work.

I wish at first to express my sincere thanks to the ophthalmologists of the country who so generously responded to the letter asking for data concerning cases of excision of the sympathetic ganglia for glaucoma, and for the latest possible reports of the condition of such cases.

In this way it has been possible to secure records of almost all the cases of glaucoma treated by this means in this country. In several instances the reports seem so favorable that one is tempted to draw general conclusions, while in others the data are so meager or the time that has elapsed since the operation is so short that positive deductions are unwarrantable. Such reports would be more valuable if in every instance careful clinical records had been kept, together with charts of the visual fields. Nothing is more important in the study of chronic glaucoma than the condition of the peripheral vision, and such record in a number of these cases is lacking.

I desire, first, to present a detailed report of seven cases of sympathectomy for glaucoma in my own practice which are still under observation, two of which are rather recent. I shall then give an abstract of the records of cases of sympathectomy for glaucoma that have been done in this country, as they were furnished to me by the observers in answer to the circular letter sent out this spring. Many of these cases have already been published, but the observers have kindly sent me the latest possible report on the condition:

Case 1.—Chronic inflammatory glaucoma—right eye. Sympathectomy (no benefit). Iridectomy (improvement).

Felix H., aged 40 years. Entered Illinois Eye and Ear Infirmary April 29, 1901. Family history negative, and no previous history of eye trouble until April, 1898, when he lost the sight of the left eye by having it struck with a piece of hot brass. He could see shadows with it until one year before admission. Some three weeks after the injury to the left eye, the right became inflamed, and he states that he was unable to see with it for two or three weeks, and then he recovered vision. In the last two months he has noticed failure of vision, with occasional pain in the right eye. Halos have been noticed around a light. On admission R. E. V.=20/50 with Cyl.+1.50, 180°, slight improvement. Conjunctiva of right eye injected and there is engorgement of the ciliary vessels. Pupil moderately dilated and vertically oblong. Responds to light. T.+. Optic disc distinctly excavated, but no pulsation of the vessels. L. E. V.=0. Conjunctiva injected; pupil dilated, cataract. T.+1. No perception of light. Fundus not visible. Eserin, grains ii-℥i, was used three times daily, and the pupil became somewhat smaller and the tension less. For visual fields see Figure 1, which shows marked contraction in all meridians.

May 16, 1901, R. V.=20/70 with Cyl.+1.50, 180°, through stenopaic slit 20/50. Severe pain last night. A. c. shallow. T. +1. Pupil dilated 5 mm. In the afternoon of this day, under chloroform narcosis, Dr. F. C. Schaefer removed the right superior cervical sympathetic ganglion. Contraction of the pupil immediately followed, but tension was not lowered until several hours after the operation. At the time of the operation there was neither pallor nor flushing of the face, nor was there an increase of lachrymal secretion. Ptosis of right side was noticed after recovery of consciousness.

May 17, 1901. Patient comfortable, right pupil contracted. T. lower than before, but still +.

May 18, 1901. Considerable headache. Pupil contracted. T.+.

May 20, 1901. Considerable pain in wound and head. T. slightly +. R. V. =20/40.

There was some infection of the wound, but by June 7 it had completely healed and patient had no more pain and also no headache. The slight improvement in central vision continued at 20/40 and the tension was only slightly increased. The fields, however, showed no improvement.

June 13, 1901. Vision fell to 20/70, with an increase of tension. This was not controlled by eserin.

June 20, 1901. Tension has been elevated for one week and there has been occasional pain in the eye. Large iridectomy done upward.

June 22, 1901. Very slight reaction from iridectomy.

July 2, 1901. R. V.=20/100. Tension normal. No pain. Central vision began to improve, but occasionally there was slight pain in the eye and slightly increased tension.

From Aug. 2, 1901, to date of his discharge, Aug. 29, 1901, the tension remained normal and the eye was quiet. R. V. with Cyl.+1.00. Ax. 20°=20/30+. Visual fields were unchanged. See Figure 3.

Case 2.—Chronic inflammatory glaucoma. Both eyes. Rt., sympathectomy (marked temporary improvement). Iridectomy.

Edw. L. V., aged 62 years, entered Illinois Eye and Ear Infirmary June 29, 1901. No history of previous eye disease. History of rheumatism. Father became blind at the age of 70 years. Examination of urine shows nothing abnormal. About five years before patient noticed he would occasionally see rings of color around a light, but it was not until six months before admission that he commenced to have pain in his eyes, which he describes as dull, persistent and centering over the left eye. He has noticed a gradual failure of vision, and at different times a complete loss of vision in different fields. There is a history of an acute exacerbation three weeks ago, since which time he has had more trouble. Patient hyperopic. R. E V. with Sph.+5 00=20/100+1.

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* Author's abstract of a paper read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks. The full paper appears in the Transactions of the Section, 1903.

Cornea clear, not anesthetic. A. c. shallow. Some circumcorneal injection. Pupil not dilated, responds feebly to light. T.+. Lens slightly cloudy. Disc deeply cupped with glaucoma halo.

L E V. with Sph +5.00 = Fingers at 5 feet in temporal field. Pupil normal in size T.+. Some opacity of crystalline lens. Disc deeply cupped. For fields of right eye see Figure 4. It was impossible to chart the field of vision of the left eye. Eserin, grains ii-ʒi, t. i. d., was used in each eye.

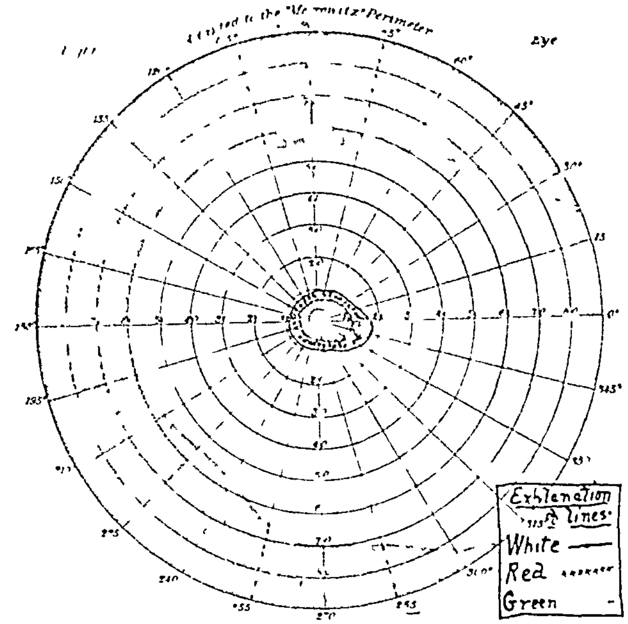

Figure 1, Case 1—Felix H, aged 40 Before sympathectomy. Chronic inflammatory glaucoma. April 29, 1901 Rt. eye V=20/50 T.+ Good illum obj 1 cm sq

Operation July 12, 1901. Under ether narcosis the right superior cervical sympathetic ganglion was removed by Dr. F. C. Schaefer. The operation was successfully and easily performed and the patient bore it well. Soon after the operation it was noticed that the right pupil was contracted, there was ptosis and the tension was about normal.

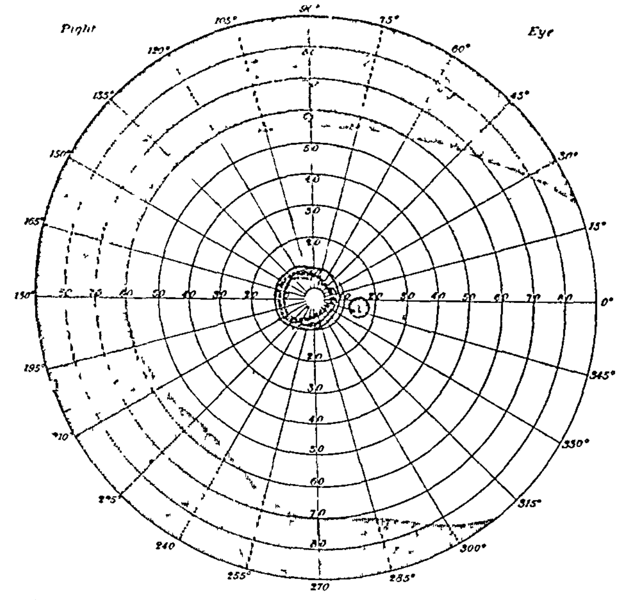

Figure 3, Case 1—Five weeks after iridectomy Chronic inflammatory glaucoma Aug. 29, 1901 Rt eye V=20/30+ T. n

July 16, 1901. R. V. with Sph.+5.00=20/50. Pupil small. T.+.

July 17, 1901. R. V. with Sph.+5=20/70. Pupil small. T.+. Wound in the neck healed by first intention and patient experienced no ill effects from it. Vision began to improve, although tension remained slightly increased.

July 30, 1901. R. V. with Sph.+5.00=20/40+. Fields increased (Fig. 5). Tension is also nearer normal.

Aug. 8, 1901. R. V. with Sph.+5.00=20/30. Tension normal. Field (Fig. 6).

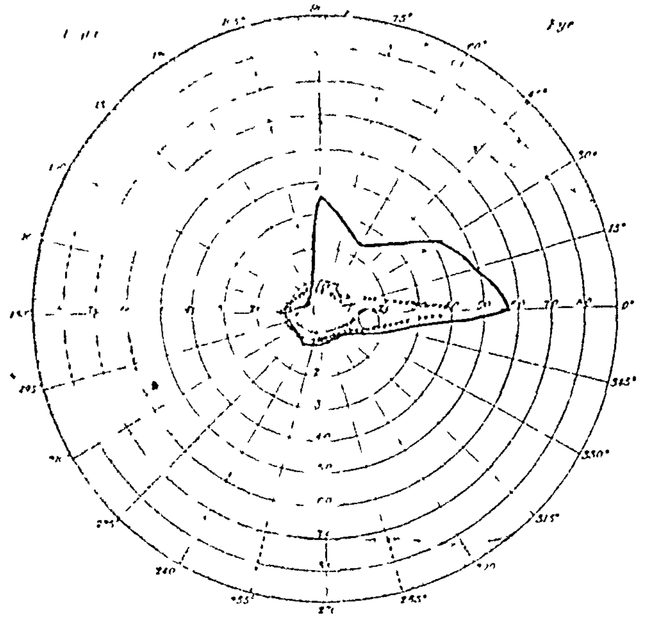

Figure 4, Case 2—Edw. V., aged 62 Chronic inflammatory glaucoma. June 29, 1901. Rt. eye V=20/100. T.+. Obj. 1 cm. sq.

Aug. 31, 1901. He left the hospital against my advice. T. n. R. V.=20/30. Field as above.

Oct. 26, 1901. Readmitted to the hospital. R. V. with glass =20/70. L. V. with glass=Fingers 6 in. Tension of right eye decidedly plus The impairment of central vision is probably due to increasing cloudiness of the central portion of lens. The left lens was much more opaque than when he left the house in August. The visual fields of the right eye had become markedly contracted, as seen in Figure 7. As the tension remained high I did an iridectomy on the right eye Nov. 14, 1901, followed one week later by an iridectomy of the left eye. Although the operation was easily performed and without accident or complication, it had the effect of causing

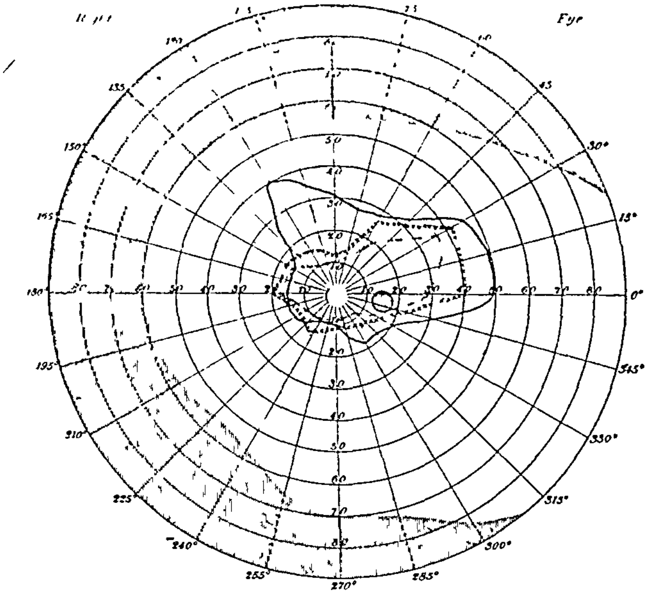

Figure 5, Case 2—Eighteen days after sympathectomy. Chronic inflammatory glaucoma July 30, 1901 Rt. eye V=20/40+. T. n. Obj 1 cm sq the opacity of the lens to increase more rapidly. The tension returned to normal and patient left the hospital Dec. 6, 1901. R. V.=15/200. L. V.=shadows. He promised to return as soon as the cataract in the right eye made him helpless, but although I have endeavored to find him, I have not seen him since.

Case 3.—Simple glaucoma, both eyes. Left sympathectomy, without benefit. Left iridectomy, with questionable benefit.

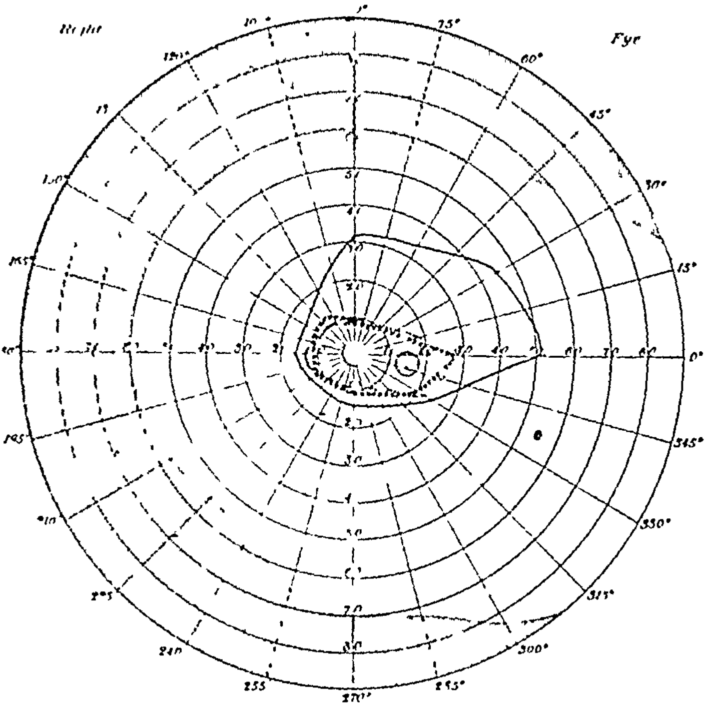

Figure 6, Case 2—One month after sympathectomy. Chronic inflammatory glaucoma. Aug 8, 1901. Rt. eye V=20/30. T. n. Obj. 1 cm sq.

Dr. John H., aged 46 years, consulted me Nov. 15, 1901, referred by Dr. A. E. Prince, Springfield, Ill. General health good. At the age of 20 he had granulated eyelids, from which he suffered for two years, recovering completely. No trouble of eyes since that time until January, 1901, when his eyesight began to grow dim, and he would occasionally see halos around a light with the left eye. These attacks of dimness of vision, during which he seemed to be looking through a "fog or haze," came on at intervals of five or six days, and lasted several hours. There was no pain, redness or tenderness of the eyes during these attacks or during the intervals. He noticed that his sight was usually clearer in the morning than in the afternoon. Four weeks before coming to me he consulted Dr Thompson of Indianapolis, who pronounced his case glaucoma and prescribed eserin, which he was using at the time. Condition at time of first examination, Nov. 15, 1901: R V. with Sph.+2.00⌣Cyl.—3.50, 180°=20/200. L. V. with Sph. +4 00⌣Cyl.+3.00 75°=20/200. He was wearing such lenses constantly. Both pupils small and somewhat irregular and do not respond to light. Tension of each +1.

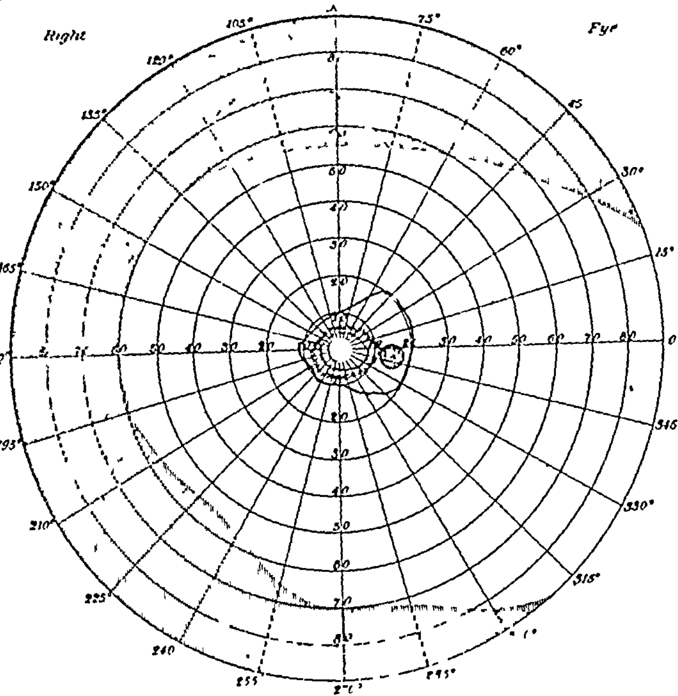

Figure 7, Case 2—Fourteen weeks after sympathectomy. Chronic inflammatory glaucoma Oct 26, 1901. Rt eye V=20/70. T.+1. Obj. 1 cm sq

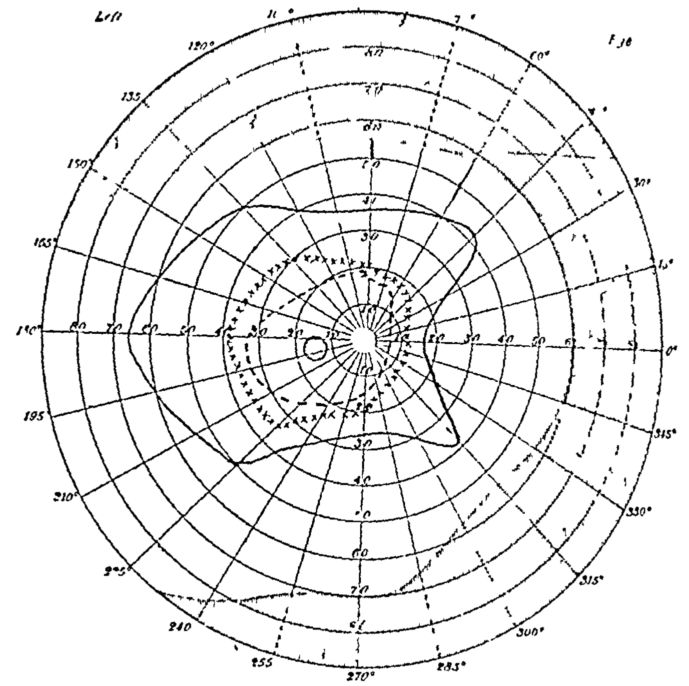

Figure 9, Case 3—Before sympathectomy Simple glaucoma Nov. 16, 1901. Left eye V=20/200 T+1. Obj. 1 cm sq

On discontinuing the use of the eserin for one day the pupils dilated moderately so that the fundus could be seen clearly. There was a deep glaucomatous excavation in each disc. The fields (Fig. 9), taken Nov. 16, 1901, showed marked contraction in the nasal region, that of the right noticeably so. The anterior chamber was about of normal depth. After discussing the question of operation with the patient it was decided to do a sympathectomy on the left side: Nov. 20, 1901, the left superior cervical sympathetic ganglion was excised by Dr. Schaefer at the Post Graduate Hospital under chloroform narcosis. The operation was successfully performed. Immediately after the operation the left pupil, which had been without eserin for two days and was mod-

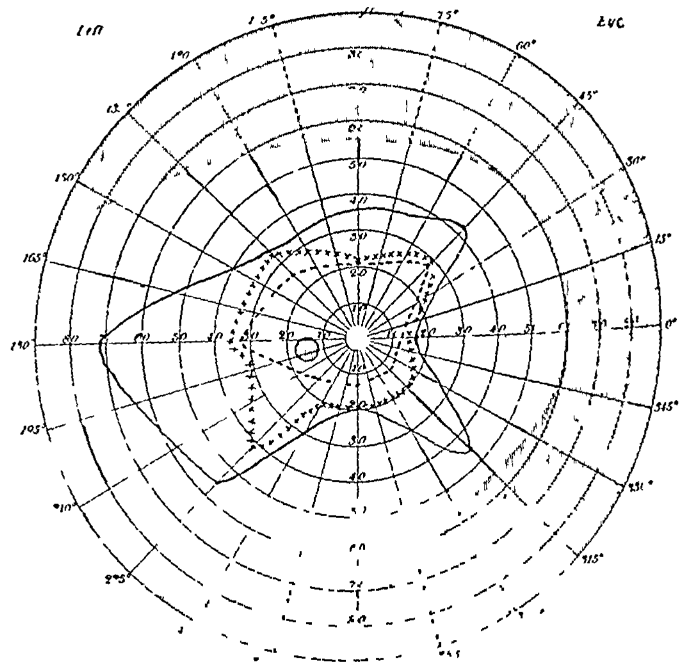

Figure 10, Case 3—Five weeks after sympathectomy Simple glaucoma Dec. 30, 1901 Left eye V=20/200 T n Obj 1 cm sq.

erately dilated, contracted, and the tension became normal. The patient recovered nicely from the operation, but had some sensitiveness of the left side of the neck and face and inability to raise the left arm and shoulder He was also quite hoarse, and this symptom persisted

Dec 1, 1901 L V. with Sph +4 00⊂Cyl +3 00 75°=20/200 T n, pupil small, ptosis of left Fields show no increase. R V. with Sph +2 00⊂Cyl —3 50, 180°=20/200 Pupil small from pilocarpin T n, sometimes +.

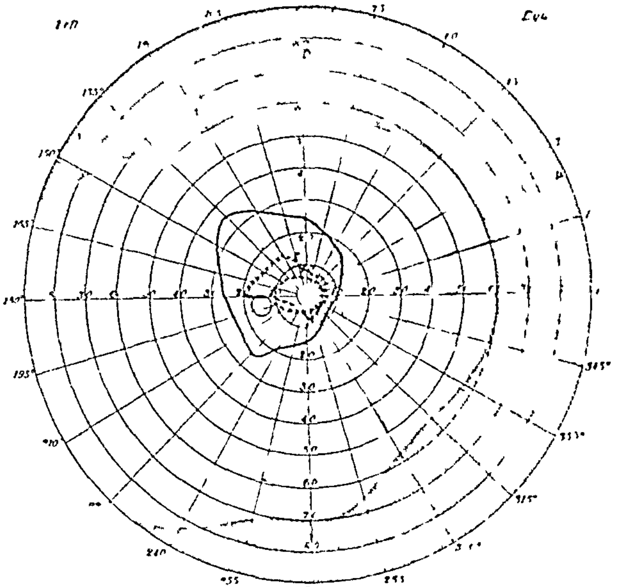

Figure 11 Case 3 —Three months after sympathectomy Simple glaucoma Feb 12, 1902 Left eye V=8/200 T+ Obj 1 cm sq

Dec 30, 1901 Condition same as on December 1. Color fields slightly enlarged (Fig 10). He left the city with instructions to continue the miotic and to report at once if his sight began to get worse

Feb 12, 1902 Patient returned with the statement that his sight was failing R V. with glass=10/200. L V with glass=8/200 Pupils moderately contracted T+ Fields of left contracted, as shown in Figure 11

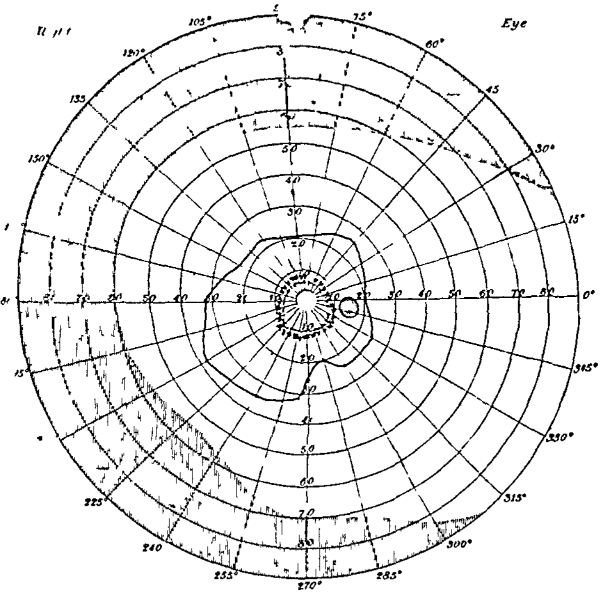

Figure 12, Case 4 —Christian K, aged 74 Simple glaucoma Oct 7, 1902 Rt eye V=20/70 T+ Obj 1 cm sq

Feb 14, 1902 Broad iridectomy upward in left eye The eye made a good recovery from the operation

Feb 24, 1902 R V with glass=15/200, T n L V with glass=6/200 T— Patient is somewhat hoarse and has imperfect power of the left shoulder He left Chicago for his home in southern Illinois He continued the use of pilocarpin, grs. ii-ʒi

A letter from him written April 10, 1903, tells me that he has R V. with glass=13/200 L V. with glass=9/200. The left vision, however, seems to be somewhat brighter than the right He says the fields are limited upward and downward, but fairly good to the temporal side. The tension in each eye is plus, that of the right being a little higher than the left

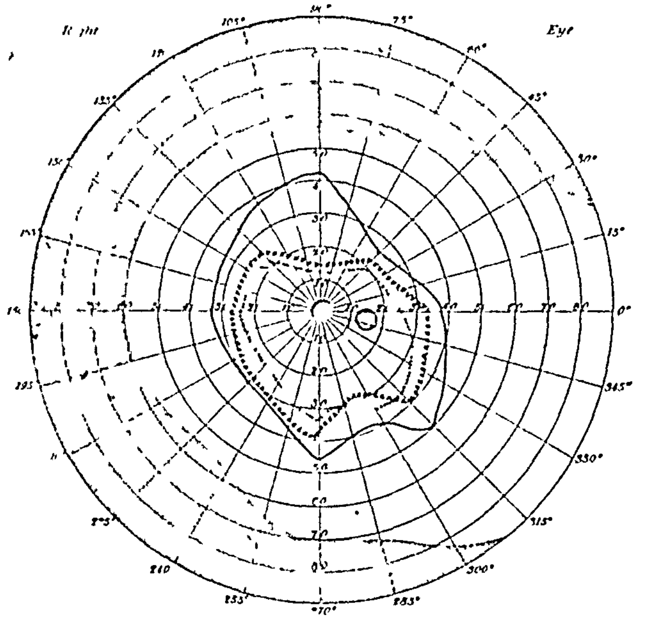

Figure 13 Case 4 —After 1 week of eserin Simple glaucoma Oct 15 1902 Rt eye V= 20/40 T n Obj 1 cm sq

He says he never has the least pain or trouble in any way in the eyes and his condition is such that he "can get around with comparative comfort," and attend to his duties as postmaster, a position he obtained after giving up his practice. His voice is hoarse and weak, and his neck in front of the scar is sensitive

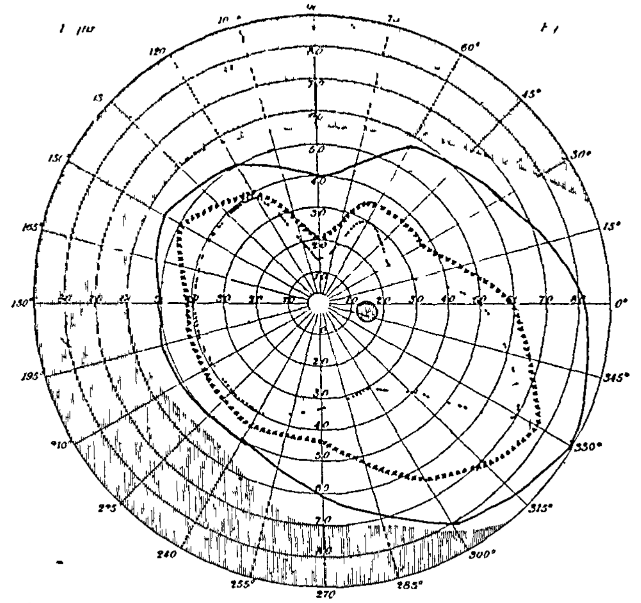

Figure 14 Case 4 —Two weeks after sympathectomy Simple glaucoma Nov 5, 1902 Rt eye V=20/40 T n Obj 1 cm sq

CASE 4 —Right, simple glaucoma Left, absolute glaucoma Right, sympathectomy (improvement)

Christian K, aged 74, admitted to Illinois Eye and Ear Infirmary Oct 3, 1902 One year before, he had severe pain in the left eye, which lasted two weeks, and which was pronounced neuralgia by one physician who saw him, and another said his impaired vision was due to a developing cataract

Halos were noticed around a light and the eye was considerably reddened. The sight was very imperfect after this period of painfulness, but the eye quieted down. Eight months later he had a most severe attack of pain in the left eye, which lasted two or three hours, after which he discovered that the eye was completely blind. This attack was pronounced neuralgia by the physician who saw him after it was over. Soon after this experience he noticed a fogginess of the vision of the right eye, more marked at times than at others. Halos were occasionally seen around lights, but he had very little or no pain in the eye. He is a strong, healthy man with no history of previous disease. Urine normal.

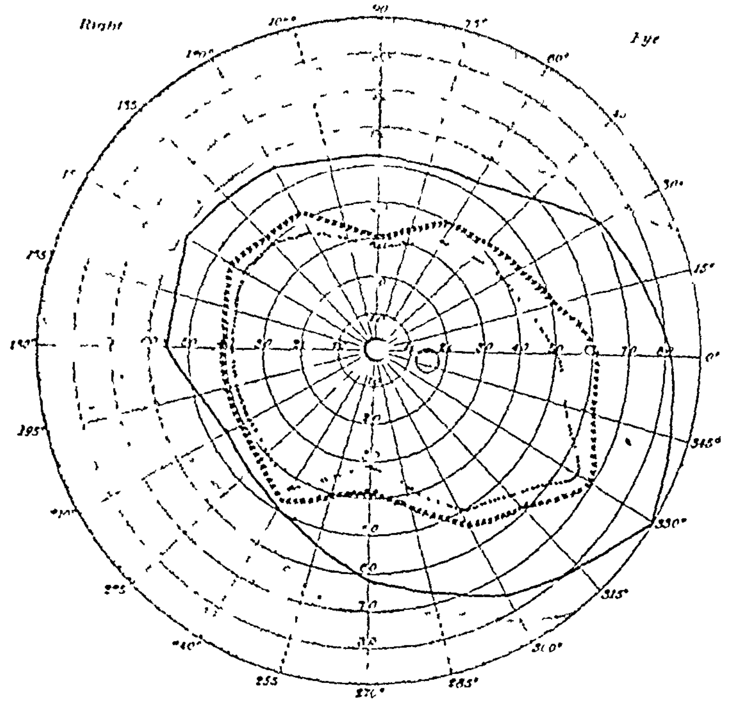

Figure 15, Case 4.—Eight weeks after sympathectomy. Simple glaucoma Dec. 17, 1902. Rt. eye V=20/40+2. T. n Obj 1 cm. sq.

On admission R. V.=20/70. Emmetropia. L. V.=0. Right eye T.+(?). A. c. of normal depth, pupil not dilated, and responds to light and acc. Optic disc not markedly cupped, but of a grayish unhealthy appearance with indistinct margin, such as is seen in incipient glaucoma.

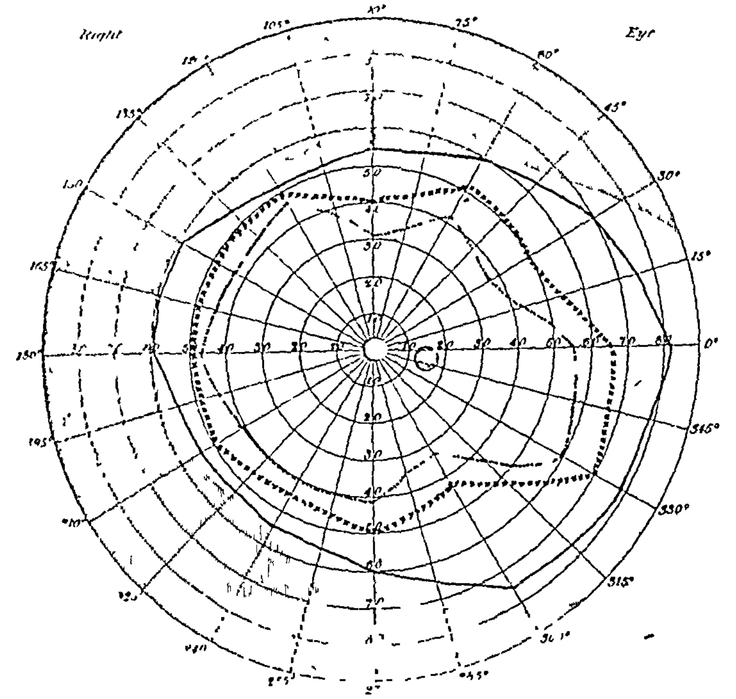

Figure 16, Case 4.—Six months after sympathectomy. Simple glaucoma. April 20, 1903. Rt. eye V=20/40+. T. n. Obj. 1 cm. sq.

Left eye, T.+3. Marked pericorneal injection. Pupil moderately dilated and shows a greenish reflex. Fundus invisible. Diagnosis: right, simple glaucoma; left, absolute glaucoma.

Eserin, grain i-ʒi, twice daily for each eye. The first chart of visual fields taken a few days after his admission is seen in Figure 12. This was not taken by myself, and may be somewhat inaccurate, for the next field, Figure 13, taken on Oct. 15, 1902, after several days' use of eserin, shows a considerably increased field; but as the central vision had improved to 20/40 from 20/70, and the tension had become normal after the use of the miotic, the improvement in the fields may probably be ascribed to the treatment. All the other fields were taken carefully by myself.

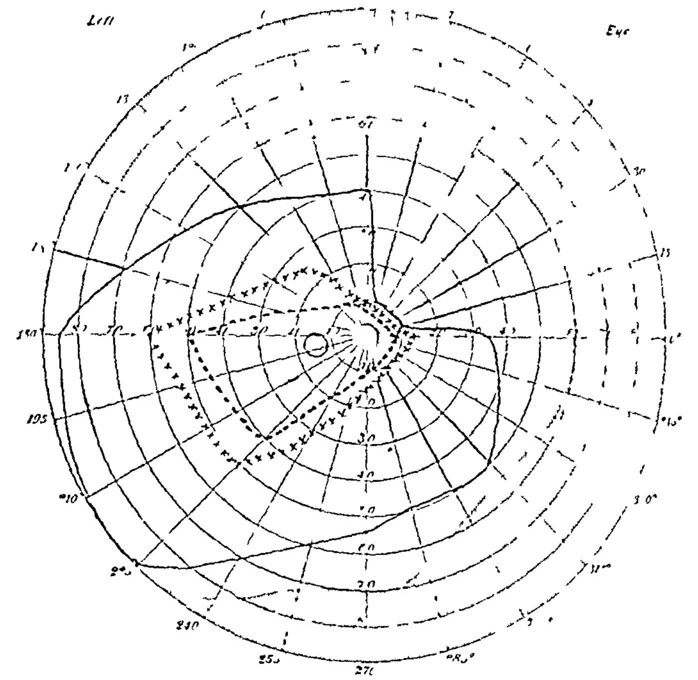

Figure 18, Case 5.—Simple Glaucoma Nov. 13, 1902 Left eye V=20/30. T.+. Obj. 1 cm sq

Oct. 20, 1902. Excision of the right superior cervical sympathetic ganglion was made by Dr. F. C. Schaefer, without any difficulty. Pupil became small immediately after the operation and tension became reduced. Ptosis followed, but there was no pain about the face or neck and no congestion of the conjunctiva or skin. Patient made an excellent recovery from the operation with no unfavorable symptoms. Slight ptosis of the right eye was noticed.

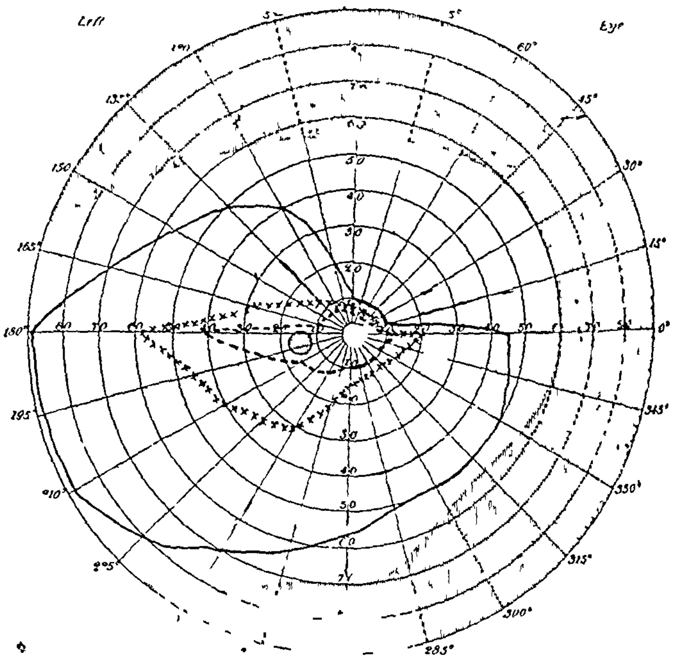

Figure 20, Case 5.—Twelve days after sympathectomy. Simple glaucoma Dec. 18, 1902 Left eye V=20/20—2 T. n Good Illum. Obj. 1 cm. sq

Oct. 28, 1902. Pupil contracted. T. n. R. V.=20/40.

Nov. 5, 1902. Fields show a remarkable improvement. (See Fig. 14.) R. V. 20/40. T. n.

Dec. 17, 1902. Improvement continues. Fields almost normal (Fig. 15). R. V.=20/40+2. Patient still has some pain in right side of face and jaw, as well as the right auricle.

Jan. 14, 1903. Left the hospital to-day. R. V.=20/40+2. T. n. Pupil contracted. Field same as above.

April 18, 1903. Readmitted. In left eye there has been severe inflammation and ulceration of the cornea, which began two or three weeks ago. R. V.=20/40+. Pupil still contracted and T. n. Fields normal (Fig. 16). It will probably be necessary to enucleate the left eye.

Case 5.—Simple glaucoma left eye. Sympathectomy. Disease stationary.

J. S., aged 76 years. First consulted me Nov. 12, 1902, complaining that for weeks previously he had the sensation of a fog being over the left eye. He had also noticed halos around a light at night. This phenomenon of colored rings he had noticed at times for years, but he remembered that at such times there was usually a slight secretion from the lids. He also experienced at times a dull pain in the left eye, and the same but less frequently in the right. He stated that at one time he had severe neuralgic pains extending from the bridge of the nose backward around the left orbit to the ear. General health good, except that he had at times indistinct rheumatic pains and suffered from a bladder disturbance, probably on account of prostatic enlargement. He wears glasses. R. Sph.+1.50 with Cyl.+1.00, Ax. 15°. L. Sph.+1.75 for distance, and R. Sph.+5.00⊃Cyl.+1.00, Ax. 15°. L. Sph.+5.00 for reading prescribed by an ophthalmologist a year or so before. R. V. =20/100 with glass, 20/30+. L. V.=25/70 with glass, 20/30. Right tension normal. Left tension slightly plus, pupil contracted with miotic, anterior chamber of normal depth, optic disc shows glaucomatous excavation, that of the right is normal. The chart of the right fields shows slightly contracted color fields. That of the left (Fig. 18) shows a scotoma in the upper nasal quadrant. Pilocarpin, grs. ii-ʒi, t. i. d., was ordered.

Dec. 1, 1902. Tension has remained about the same as before under the use of pilocarpin. Pupil remains small and anterior chamber of good depth. L. V. with glass=20/30. Left fields show somewhat more contraction in the upper nasal quadrant.

Dec. 2, 1902. At a consultation with Dr. Hotz it was decided to advise an operation. As the anterior chamber was of normal depth, and the fields have not improved under the continued use of a miotic, although the pupil was markedly contracted, it was thought that sympathectomy offered as good a chance of checking the glaucoma as iridectomy. The subject was thoroughly discussed with the patient and his family, and it was finally decided to try first the operation on the neck.

Dec. 6, 1902. Under chloroform narcosis the left superior cervical sympathetic ganglion was excised by Dr. Schaefer in the usual manner. The pupil, which for the last few days had recovered from the influence of the miotic, contracted promptly after the removal of the ganglion. There were no accidents or difficulties accompanying the operation and the patient recovered well from the anesthetic. He had complete aphonia, and marked hoarseness continued for more than a week. There was suffusion of the left eye and some congestion of the conjunctiva, mucous membrane of the left side of the nose and skin of left side of the face lasting for a couple of days. Ptosis of the left side was also noted. The patient was also confused mentally and at times had mild hallucinations and did not remember where he was. This rather alarming symptom continued for about one week, and gradually disappeared. There was tenderness about the angle of the jaw and some pain in masticating. Tension remained normal without miotic. Wound healed by first intention.

Dec. 18, 1902. Hoarseness has disappeared. Ptosis. General condition good. L. V. with glass=20/20—2. T. n. Field not markedly changed except that it seemed slightly increased in the upper nasal quadrant for white, and slightly decreased for green in the lower temporal area (Fig. 20).

The patient went to his home in an adjoining state soon after this date, with instructions to use pilocarpin regularly.

Jan. 21, 1903. Reported to me again on this date. Refraction has changed somewhat, for now he sees best with Sph.+1.25 Cyl.+0.50, 180°, which gives him L. V.=20/30. Pupil small. Tension slightly plus. Field was taken in a poor light as compared with the others, and shows more contraction, especially for colors, and a notch appears in the upper temporal field (Fig. 21). He still has some pain at corner of left jaw when he eats. Slight ptosis.

Case 6.—Simple glaucoma, left. Absolute glaucoma, right. Sympathectomy, left (improvement).

Margaret T., aged 78, entered the service of Dr. Beard in Illinois Eye and Ear Infirmary Jan. 25, 1903, and was kindly referred to me. Strong, well-preserved woman, who has usually had good health, except that since childhood she has had frequent attacks of sick headache, which continued up to two years ago, when the sight of her right eye began to fail, followed soon after by failing vision of the left. Early in the course of the disease she noticed halos around a light. On admission, R. V.=perception of light in temporal field. T.+. A. c. of normal depth, pupil slightly dilated, spicules of opacity in the periphery of the lens. Optic disc sharply cupped, with atrophy and glaucomatous halo. L. V.=8/200 with Sph.+3.50, slight improvement. T.+. A. c. of normal depth, pupil slightly dilated, faint spicules of opacity in periphery of lens; well marked, but rather shallow excavation of optic disc with halo. Retinal veins somewhat engorged. Disc rather pale. No pulsation of arteries or veins. Patient is hyperopic and has been wearing Sph.+3.25 for distance. She has marked arteriosclerosis, the superficial arteries being very hard. Urinalysis shows specific gravity 1024 albumin and no casts. The visual fields of the left eye (Fig. 22) are markedly contracted, especially the color fields, and the nasal side is almost obliterated. Fields of right eye could not be charted. Under eserin and pilocarpin the tension was reduced to nearly normal and the pupils contracted.

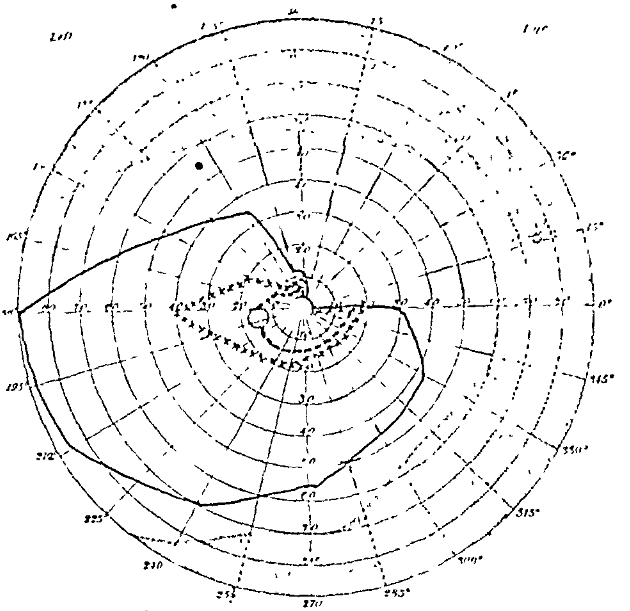

Figure 21, Case 5.—Six weeks after sympathectomy. Simple glaucoma. Jan. 21, 1903. Left eye V=20/30. T.+(?). Poor illum. Obj. 1 cm. sq.

Feb. 14, 1903. Left pupil considerably dilated 5 mm. T.+.

Feb. 16, 1903. Excision of left superior cervical sympathetic ganglion by Dr. A. E. Halstead under morphia and chloroform narcosis. The operation was uneventful and immediately after the removal of the ganglion the left pupil contracted.

Feb. 17, 1903. T. n., slight ptosis left, pupil contracted. Has headache and is hoarse.

Feb. 19, 1903. Pupil again somewhat dilated, but not so much as before the operation. It was suspected that two days before the operation some atropin had been put into the eye accidentally by the use of an atropin dropper when the eserin was being instilled and that this accounted for the sudden mydriasis. Immediately after the *operation the pupil contracted* for 24 hours, then dilated for a few days, and then again contracted and remained so. Headache persists and there is anesthesia of the left auricle.

Feb. 26, 1903. Ptosis of left. Pupil ½ mm. smaller than the right. T. n. L. V.=13/200.

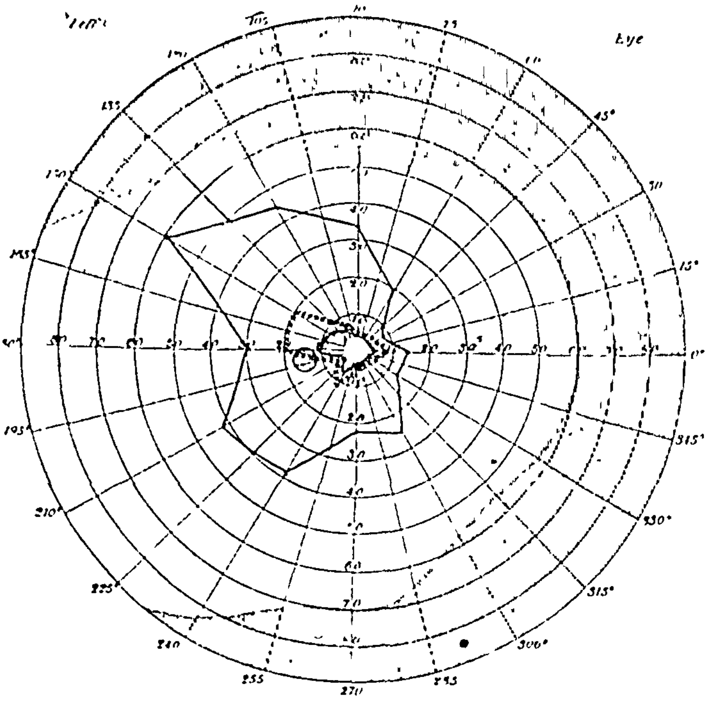

Figure 22, Case 6.—Margaret T., aged 78. Before sympathectomy. Simple glaucoma. Jan. 30, 1903. Left eye V=8/200. T.+. Obj. 1 cm. sq.

March 10, 1903. L. V.=13/200 with Sph.+3.50=20/200. T. n. Pupil remains smaller than right. Hoarseness and headache have disappeared and sensation has returned to left ear.

March 30, 1903. L. V.=18/200 with Sph.+3.50=20/120. T. n. Right pupil 3½ mm., left pupil 3 mm. Ptosis persists. Fields improved (Fig. 23).

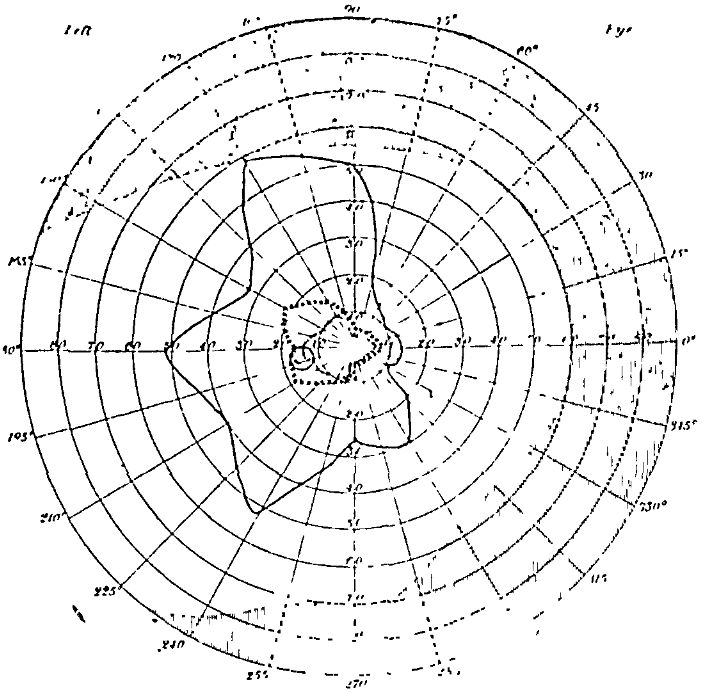

Figure 23, Case 6.—Six weeks after sympathectomy. Simple glaucoma. March 30, 1903. Left eye V=20/200. T. n. Obj. 1 cm. sq.

April 15, 1903. Left hospital with instructions to use pilocarpin and to return at once if vision begins to fail.

June 1, 1903. Readmitted to hospital. L. V. with Sph. +3.50=20/200. T. n. Left pupil smaller than right. Fields about the same as in Figure 23.

CASE 7.—Simple glaucoma, left; simple absolute glaucoma, right. Left sympathectomy (without benefit). Left iridectomy, complicated with intraocular hemorrhage. *Loss of sight.*

Chas. F. D., aged 57, was admitted to the Illinois Eye and Ear Infirmary Feb. 10, 1903, where he was assigned to the service of Dr. Chas. H. Beard, who kindly transferred him to my service. Patient usually had good health and excellent sight until two years before, when he first noticed that the vision of the right eye was foggy at times, and he would see halos around a light. The right vision continued to fail, but he had no pain or inflammation in it. Three months before his admission the same trouble began in his left eye, so that he could no longer see well to do the fine work that his occupation, that of bronze sculpture work, required. Three weeks before entrance to the hospital he first noticed halos about a light with the left eye. He states that he has had occasional attacks of temporary blindness in both eyes, lasting a few minutes. Urine normal. Arterial tension rather high. R. V. perception of light. T.+. No fields. Media somewhat *hazy.* Optic disc deeply cupped. L. V.=20/100 with Sph.+1.50=20/40, pupil responsive to light and moderately dilated, a. c.

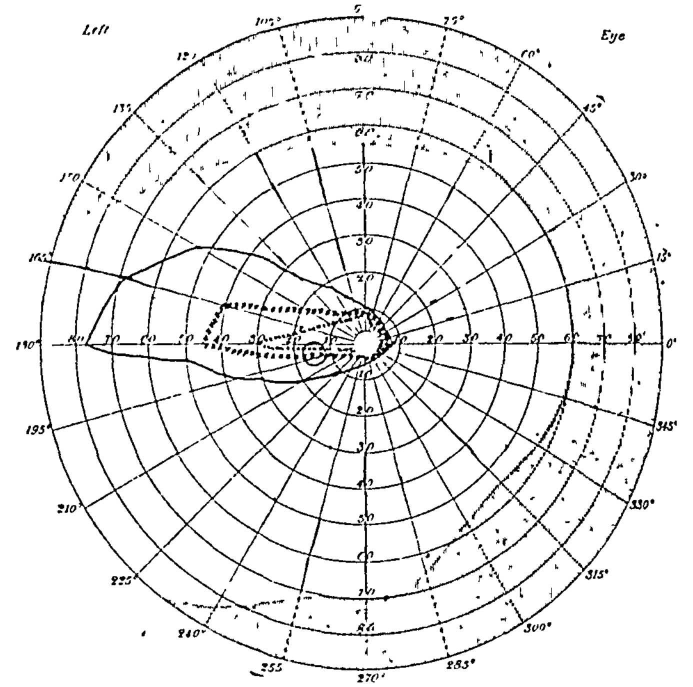

Figure 24, Case 7.—Chas. D., aged 57. Before sympathectomy. Simple glaucoma. Feb. 10, 1903. Left eye V=20/40. T.+ Obj. 1 cm. sq.

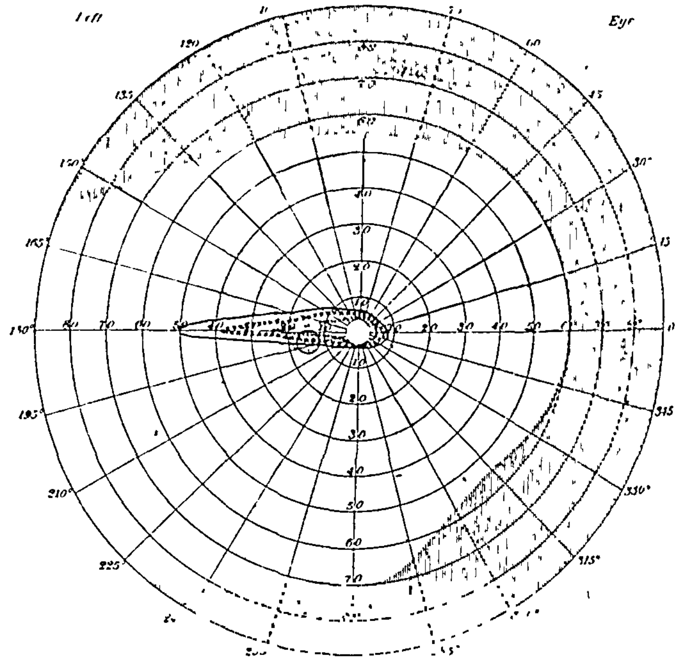

Figure 25, Case 7.—One month after sympathectomy. Simple glaucoma. March 13, 1903. Left eye V=20/40. T.+1. Obj. 1 cm. sq.

normal in depth. T.+. Glaucomatous excavation of optic disc. Fields markedly contracted, only a small temporal field remaining (Fig. 24).

Feb. 16, 1903. Removal of left superior cervical sympathetic ganglion under morphia-chloroform narcosis by Dr. A. E. Halstead. The operation was somewhat difficult on account of the patient's thick neck. The ganglion was very small, but was removed with about 3 cm. of the nerve. Spinal accessory nerve was cut and was afterward united with catgut suture.

Feb. 17, 1903. Patient recovered well from the operation. Pupil is contracted, ptosis marked. Partial anesthesia of left side of face and neck. T.+ as before.

Feb. 26, 1903. L. upper lid droops about 2 mm. more than right. Right pupil 4 mm. L. pupil 2½ mm. L.V. with Sph.+1.50=20/40. T.+. Pain in left side of face and jaw, slight hoarseness and some loss of power in left shoulder. The hyperesthesia of the left side of the face about the jaw and ear was intense, so that he could not bear the slightest touch. Eserin was used regularly.

March 13, 1903. L.V. with Sph.+1.50=20/40. T.+1. Ptosis and miosis persist. Hyperesthesia of the face gradually getting less. Fields much contracted, being reduced to a narrow slit (Fig. 25).

March 17, 1903. Anterior sclerotomy. Slight reduction of tension.

March 21, 1903. Tension again as high as before. Under cocain and holocain anesthesia an iridectomy was done upward. Immediately after completing the corneal incision the wound gaped widely and after a portion of the iris had been excised vitreous began to present in the wound and the patient complained of intolerable pain. After cutting off the portion of extruding vitreous the lens was forced into the wound and had to be removed. Then followed more vitreous and a copious hemorrhage, the patient all the time experiencing great suffering. The bleeding was finally checked and the eye bandaged. The patient was given an opiate and put to bed, and immediately had a severe chill.

March 22, 1903. Patient was fairly well and not suffering much. In the gaping corneal wound was seen a clot of blood and a tissue resembling iris or choroid. There was comparatively little reaction after the operation. The wound became smooth by the separation of the protruding mass and the blood in the anterior chamber was absorbed. At the present time, April 20, 1903, the wound has healed. Eye sensitive to touch. T.—2. V.=0. Sensitiveness of the side of the face has disappeared and the patient has completely regained the power of the arm and shoulder.

The excised ganglia in the last four cases were prepared by Dr. E. V. L. Brown, the pathologist of the Illinois Eye and Ear Infirmary, and were examined by him and also by Dr. Sydney Kuh, professor of diseases of the nervous system at the Post-Graduate Medical School. To these gentlemen I am indebted for the notes on the histologic appearances of the specimens. All the specimens were hardened in 5 per cent. formalin and corrosive acetic solution and stained with toluidin blue and with hematoxylin and eosin.

In all of the specimens there was increased pigmentation of the ganglion cells. In Cases 4 and 5, mast cells were seen. In Cases 4, 5 and 7 it was noted that the cells were not round, but of irregular shapes.

In one case, No. 6, cells slightly vacuolated were observed. In two cases, Nos. 4 and 5, it was noted that the cells showed excentric nuclei, and in the same cases marked vascularity was present. The histologic examination lacks completeness, as, unfortunately, there was not available for control study normal ganglia from individuals of the same age as the patients. As the pigment in the ganglion cells is normally increased in advancing age, it can not be said that these present an abnormality.

(*To be continued.*)

# SOME HISTOLOGIC FACTS THAT CONTRADICT THE GENERALLY ACCEPTED ODONTOBLAST THEORY.*

MICHAEL MORGENSTERN, D.D.S.

STRASSBURG, GERMANY.

While I feel very much honored by your kind invitation, I nevertheless approach my task with some trepidation, because my histologic examinations lead me to conclusions that are considerably at variance with those of others who have worked along similar lines in past years. In Germany, I have for the present only a small number of followers, and I fear that the majority of you who are assembled here to-day are also fanatic adherents of the old odontoblast theory; consequently, I assure you that I expect only a moderate amount of applause and approbation at your hands.

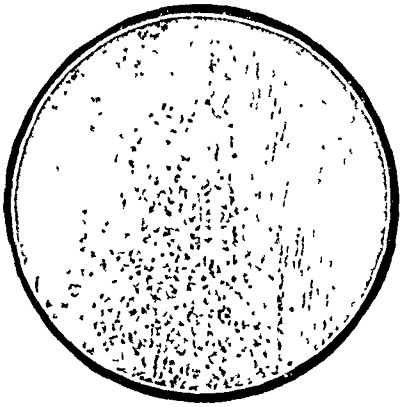

Figure 1.

But it is in your country precisely that the first voices were raised years ago against the prevailing views in regard to the rôle of the odontoblasts, and while I do not fully share the views of Heizmann, Boedecker, Abbot and Andrews, I nevertheless recognize in these men brave pioneers, and their example inspires me with the courage to appear with my results before an audience that is composed of the greatest investigators in our particular field of research.

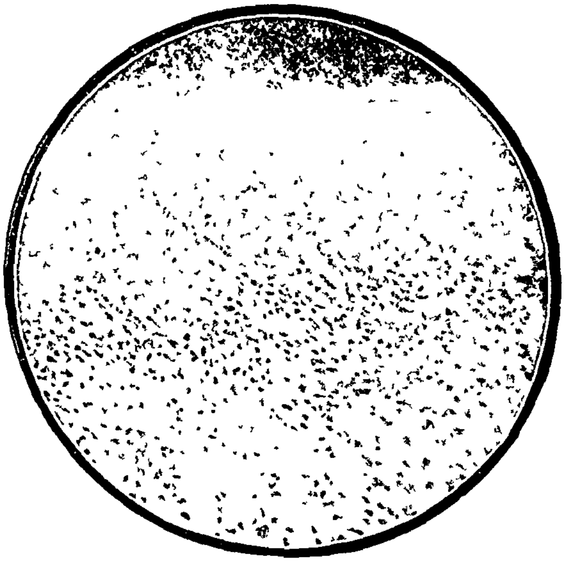

Figure 2

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

According to the views that are prevalent in regard to the rôle of the odontoblasts, the surface of the pulp is covered with a single layer of cells that are in intimate contact with each other as are epithelial cells. These are the dentin cells or odontoblasts. Each one of these cells sends a protoplasmic process (dentin fiber) into the dentin. It is claimed that these odontoblasts are perennial, i. e., that they persist during the formation of the dentin, and are neither reduced in number during this process nor replaced by other cells. It is further claimed that the nutrition and the sensation of the dentin is exclusively bound to these dentin cells and their protoplasmic processes. All subsequent formative changes in the dentin, as, for instance, the genesis of the transparent zone in caries and the broadening of Neumann's sheath in senile teeth are also believed to be exclusively due to metaplastic activity going on in the protoplasmic processes of the odontoblasts.

The great advantage of this theory is its simplicity, for the most complicated physiologic processes can be explained on a very simple, one might almost say unitarian histologic basis. The very fact, however, that everything seems so simple should lead us to be skeptical. Recent investigations into the structure and the composition of the albumins teach us that things that appear exceedingly simple are nevertheless most complicated, and it seems hardly probable that different physiologic processes can be explained on the basis of one histologic unit. True, the adherents of the odontoblast theory point out that in lower orders of animal creation a single cell or group of cells may occasionally assume all the functions of the organism and that similar conditions might obtain in the case of the odontoblasts; against this argument we can formulate the objection that the odontoblasts are simply parts of a more complicated organism, and that in higher orders of animal creation the anatomic differentiation proceeds *pari passu* with the physiologic division of labor that becomes operative in complicated organisms. One might further object that in no vertebrate is any other cell variety known to exist whose protoplasm can at the same time perform the functions of nutrition, of sensation and of metaplastic transformation.

These theoretic objections alone do not, however, lead me to doubt the correctness and the validity of the odontoblast theory as it is accepted to-day; I have, moreover, been able to discover a number of histologic facts that can not be reconciled with this theory. It is the main object of this address to demonstrate these histologic facts to you with the aid of illustrations that I have made from my microscopic preparations.

I have frequently seen in the so-called pulp horns of the dentin germ in the fetus and the new born that the dentin cells were arranged in a multiple layer. Figure 1 is one of a series of sagittal sections through the anterior dental germs of a new-born child. You will notice that each dentin cell is pear shaped; you will also notice the direction of each dentin fiber and of the capillaries, for all these features show that we are actually dealing with a longitudinal section and not with a diagonal section in which the multiple arrangement of the cells might be simulated. The layer I am discussing consists of ten to twenty rows of cells. The individual cells show no trace of lateral flattening from mutual pressure; on the contrary, capillaries and fibrillæ will be seen running between the different cells in a direction that is parallel to the longitudinal axis of the dental germ. It is clear, therefore, that the cells are not arranged in several layers on account of crowding or lack of room and mutual pressure.

The structural changes in the dentin cells also call for discussion. It will be seen that the cells become paler from the bottom toward the surface of the layer; that the nuclei disappear and that the cell boundaries become indistinct, until finally near the margin of the dentin hardly any cell remnants can be seen; for in this zone the changes in the substance and the structure of the cells are so far advanced that the dentin cells have become fully disintegrated and have disappeared from view.

If with Figure 1 we compare Figure 2 that is made from a frontal section through the pulp ridge of a young calf tooth. we will find the same conditions. Here, again, we see a broad layer of oval and round cells that are already beginning to become pale, extending up to the edge of the dentin. The layer here consists of some twelve rows of cells. These cells are odontoblasts in a state of dentinogenous metamorphosis, and show evidence of beginning disintegration. Between the cells we see capillaries running in the same direction as the dentin canaliculi. Below this zone we see the pulp cells in close aggregation, arranged in rows and extending their processes into the layer of disintegrating odontoblasts. These cells are in a state of conjugation and lead by that the formation of odontoblasts.

In preparing a tooth germ according to the method of Koch-Weil and in making a section without decalcification, spherical solid structures are seen in place of the pale disintegrated odontoblasts. These spheres were formerly considered to be dentin spheres or globular masses, and were described by these names. In another stage of the formation of dentin a transparent, homogeneous layer composed of single trabeculæ is occasionally seen in place of the disintegrating odontoblasts.

If a tooth that is still in a developmental stage is only incompletely decalcified, spherical structures are also seen in the place of disintegrating odontoblasts. Many of these little globules, however, contain remnants of cells and nuclei; in injected specimens I was even able to detect capillaries between the spheres. These capillaries could be sharply differentiated from the colorless spheres of dentinogen by their intense color.

After this discursion you will be able to understand Figure 3, which is prepared from a frontal longitudinal section through the germ of a molar tooth in a new-born infant. The preparation was decalcified until all the calcium salts were removed. In the natural state dentinogenous masses of spheres were found throughout the whole visible portion of the pulp. After careful and thorough decalcification, a wide layer of disintegrating cells was seen instead, in which odontoblasts could no longer be found. Toward the center, pulp cells are seen that are odontoblasts, and that send processes or fibrillæ into certain portions of the area of disintegrating cells and through this zone into the dentin.

In a later stage of formation dentin appears in the place of the mass of globules, and the pulp cells are seen to have undergone metamorphosis into trabeculæ of odontoblasts. Some of them become distended and appear as cartilage cells that are surrounded by a light areola. This is the stage that preceded the disintegration or the dentinogenous formation of globules and that is illustrated in Figure 4. This specimen is prepared from a longitudinal section through the dentin germ of a sheep's fetus.

As long as the formation of dentin continues, the arrangement of dentin cells in multiple layers can be demonstrated. In a preparation from the longitudinal section through a normal bicuspid in a girl of 12 years, the layer of odontoblasts still consists, at some places, of seven to eight rows of cells. I have been able to show in innumerable sections that the odontoblasts that are arranged in several rows underneath each other are not merely different layers of a single row that have become displaced so as to lie below one another, but really consist of several rows of cells.

I have been able to demonstrate this conjugation of pulp cells for the purpose of odontoblast formation in the earliest developmental stages. In Figure 5, made from the tooth germ of a human fetus, the genesis of the small number of odontoblasts that is formed in this specimen from confluence or conjugation of pulp cell (mesoblasts) can be clearly seen. In those places in which no odontoblasts have been formed, single fibrillæ, i. e., preformed dentin fibers, appear underneath the layer of enamel cells at the margin of the dentin germ.

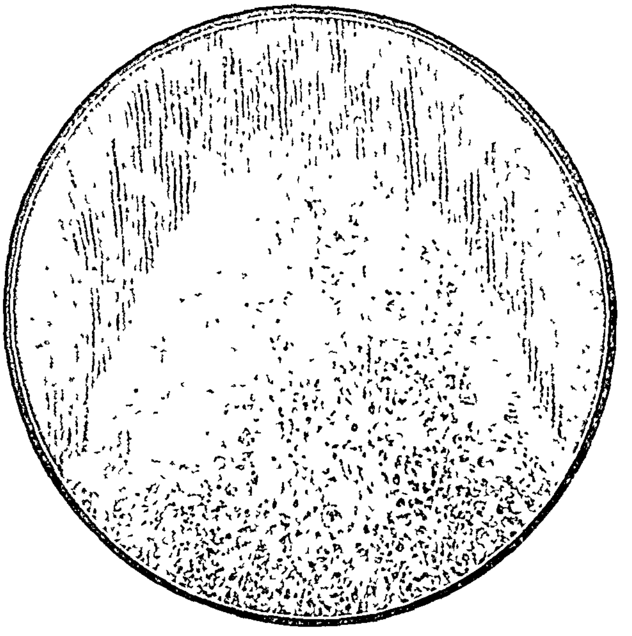

Figure 3

In a somewhat later stage and after dentin has already been formed, odontoblasts arranged in trabeculæ appear. Many of these later odontoblasts, however (as shown in Fig. 6), no longer possess a nucleus, whereas the odontoblasts in Figure 5 may even possess two or three nuclei.

I believe that I have adduced valid arguments against the existing odontoblasts theory by the demonstration of these illustrations (Figs. 1 to 6), for I have been able to show (1) that, at least in the earliest developmental stages of the teeth an odontoblast originates from several cell units; (2) that during the different periods of tooth formation a multiple layer of odontoblast cells can be demonstrated; (3) that, finally, the external rows of this layer undergo metaplastic transformation so that they disintegrate. Consequently I argue that it is impossible for each odontoblast to persist throughout the whole period of tooth formation without being destroyed and subsequently replaced by other cells from which the dentin is ultimately formed.

The innumerable smaller cells that are seen underneath the layer of odontoblasts have been completely ignored by the adherents of odontoblast theory. The fact, moreover, that the nuclei of the odontoblasts show no karyokinetic figures has been misinterpreted by them. The replacement of the odontoblasts that are destroyed in process of dentin formation does not occur by cell regeneration and karyokinesis of nuclei, but by proliferation of the small underlying pulp cells that are connected by innumerable protoplasmic anastomoses with the dentin cells.

The salient feature of this whole investigation is to show that dentin cells are actually used up in the process of dentin formation. If it should be possible to demonstrate the presence of transition forms between the different forms of cells that are in process of metaplastic metamorphosis this postulate would be fulfilled. When the formation of dentin proceeds quietly and uniformly, such transition forms are not easy to find when the formation of dentin, however, proceeds in an irregular manner, i. e., when "functional irritants influence the formation of dentin," then it is an easy matter to find such forms of cells. I take the liberty of demonstrating by the following illustrations what I wish to show. The specimens are taken from the roots of teeth from ruminants, rodents and fish. I have already in a separate monograph described the results of these particular investigations on the formation of dentin in these species.

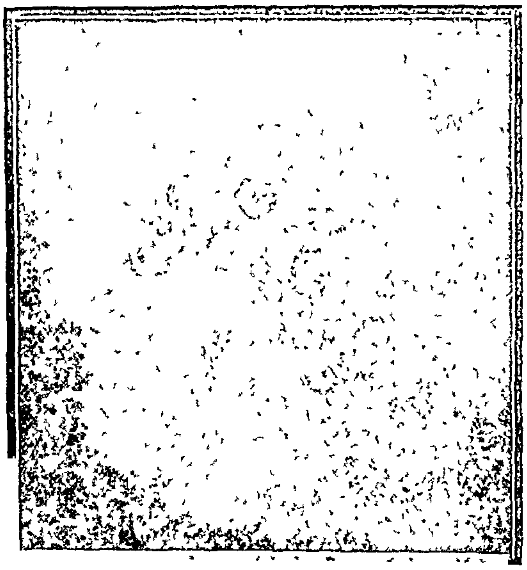

Figure 4

Figures 7 and 8 are made from cross sections through the root of a cow's tooth in its first stage of development. We see a narrow strip of dentin with fenestrations; within the openings of the dentin are seen odontoblasts, some of them still connected with one another by protoplasmic processes. The substance of the majority of the cells is changed, and owing to "dentinogenous transformation" that is taking place, they appear black. In the narrow odontoblast layer we see pale odontoblasts, and in addition some cells that are colored black. In this layer, therefore, we see the same change in the substance of the cells throughout.

In Figure 8 the layer of odontoblasts is irregular, somewhat broader than above and interrupted in many places by protruding plugs of dentin. The odontoblasts of this layer correspond in regard to arrangement, form and substance to those that are found in the interior of the dentin.

The gradual transition of pulp cells into the layer of odontoblasts, as well as the transition of the odontoblasts into particles of dentin, can be seen clearly in Figure 9, made from the first dentin appearing in the roots of a cow's tooth. The changes in form that the odontoblasts undergo in the process of dentin formation can be seen particularly well. In Figure 10, in which we see that the dentin is broader, the arrangement in rows, the conjugation and the changes in the substance of the odontoblasts can be seen on a somewhat larger scale. In Figure 11 the dentin contains two plugs, consisting of different kinds of cells. The other margin of these plugs is very pale and is seen to be undergoing metamorphosis to dentin.

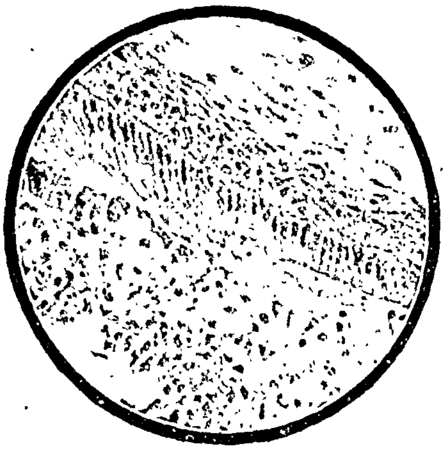
Figure 5.

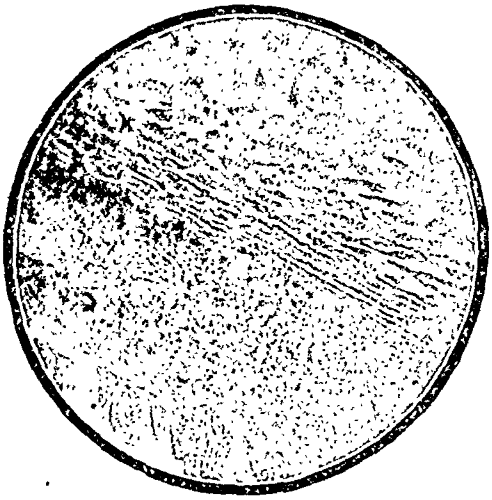
Figure 6.

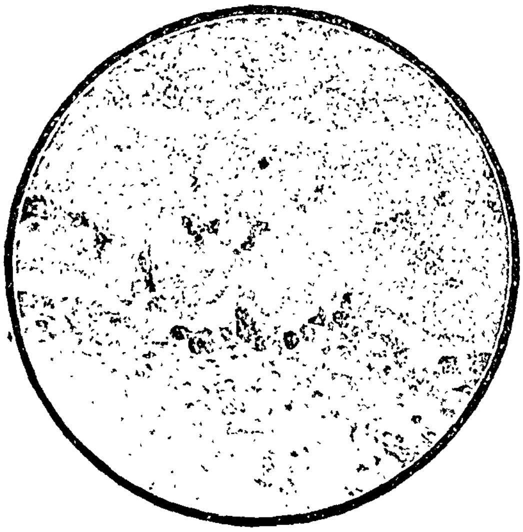
Figure 7.

These plugs that frequently pass through the layer of odontoblasts and almost penetrate to the cement layer in the dentin, may easily create the impression that dentin had been previously formed, had again been absorbed and had been subsequently replaced by pulp tissue that had penetrated into the spaces created in this way. This view, however, is opposed by very valid arguments. I have studied the peculiar formation under discussion through all developmental stages, i. e., from the very beginning of tooth formation to the completion of root growth, and I could determine on the basis of thousands of observations that these plugs never penetrate into finished dentin, but are only found before the formation of dentin is complete. The plugs represent masses of pulp that remain behind in certain areas, owing to an irregular development of the dentin. Later these plugs are destined to undergo the same metamorphosis as other portions of the pulp that are further advanced in their development. Finally these plugs disappear and the area they occupy is replaced by normal dentin.

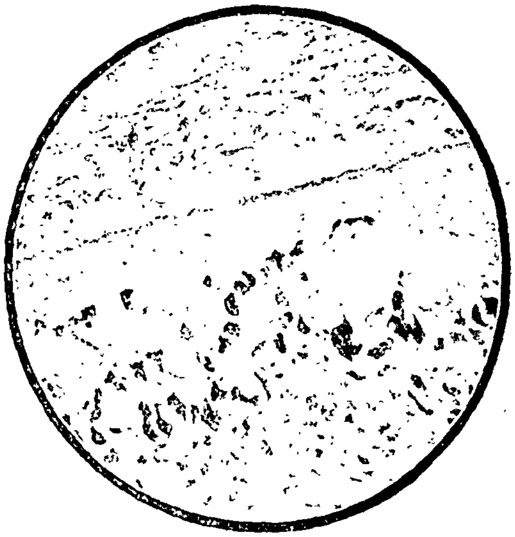
Figure 8.

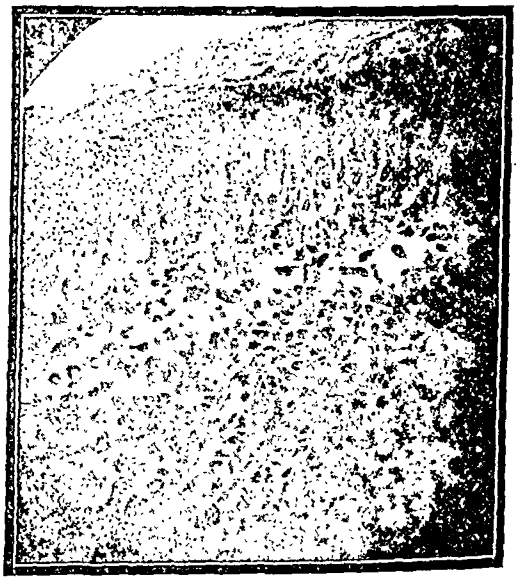
Figure 9.

Gero Rudas has recently stated that the presence of cells in the dentin is always due to the invasion of leucocytes, and that the development of the pulp is deficient in those places in which incapsulated pulp cells are found. I am forced, however, to deny the correctness of these statements from my own experience. I believe I have shown that the cells within the dentin do not consist of invading pathologic leucocytes, but of mesodermic cells and dentin cells that have been passively inclosed. Under normal conditions these cells disappear without leaving a trace. Only in those cases in which the developmental processes are arrested—as, for instance, by rapid and great destruction of the cutting edges of the teeth from overuse with resulting atrophy of the pulp—do we see deficient development of dentin in such places.

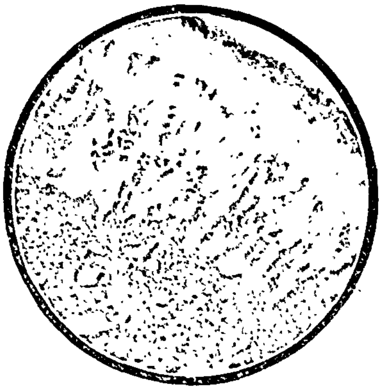

Figure 10.

In the dentin of certain animals, however, we sometimes see single cells, cell groups and cell territories that probably persist during the life of the animal; they must either persist as living cells that are normal or as decayed cell rudiments. I have been able to find such cells, particularly in the teeth of rodents and most frequently in the molar teeth of rabbits. In Figure 12 such cell territories are shown, and in Figure 13 single cells inclosed in the dentin of rabbits. We know nothing positive in regard to the significance of those cells.

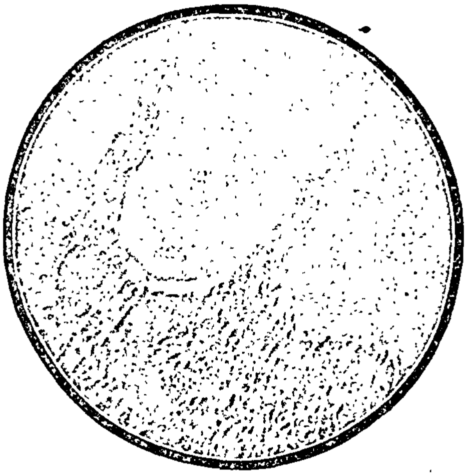

Figure 11.

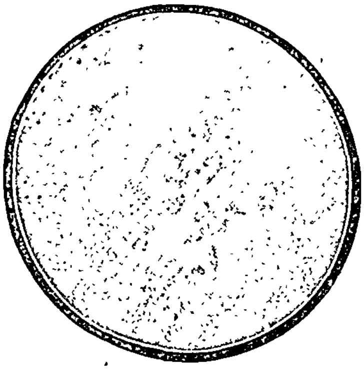

Figure 12.

What we learn from the formation of dentin under the influence of functional irritants is that dentin may be formed without a typic layer of odontoblasts and that the pulp cells that were heretofore considered to be completely indifferent are directly concerned in this process; and finally, that the latter are arranged in rows during this developmental process without ever being transformed into typic odontoblasts. The transformation of these cells into dentin may, however, be followed step by step, for it can readily be shown that they, as well as the odontoblasts that are inclosed within the dentin, are gradually converted into dentin; and this, I argue, proves that in the formation of dentin, dentin cells are used up.

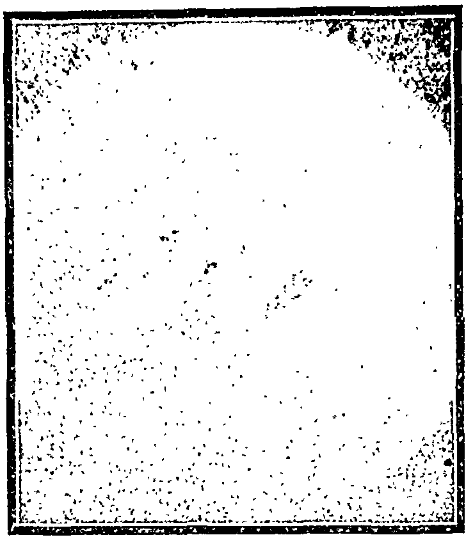

Figure 13.

At all events we may assume as positive that no conclusions can be drawn from the fact that the odontoblasts form one layer in regard to the permanence of the odontoblasts, nor in regard to the continuous disintegration of these cells and the replacement of the destroyed cells by new ones. I am inclined to the belief that the formation of a single layer of odontoblasts constitutes merely a transitory stage in the development of dentin, and a stage, moreover, that need not necessarily be observed in all cases.

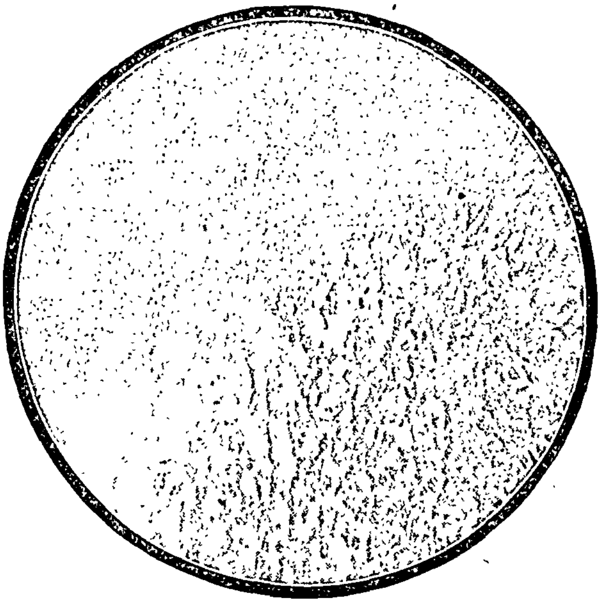

Figure 14.

In connection with the old odontoblast theory, the idea is often expressed that the perennial dentin cells (whose number always remains the same) advance toward the pulp as well as toward the dentin, and that in process of advancing toward the pulp they displace this tissue. The question is not decided, however, whether or not all the constituents of this displaced pulp undergo atrophy or whether they are merely compressed. In the light of my discovery of the metamorphosis of pulp cells into dentin cells and of the continuous degeneration of the latter, this view is altogether untenable.

Only one explanation seems satisfactory, namely, that more and more of the pulp becomes included in the process of dentin formation. must assume consequently that the pulp becomes smaller and smaller, and we do not need to postulate compression nor atrophy of the pulp to explain its gradual shrinkage.

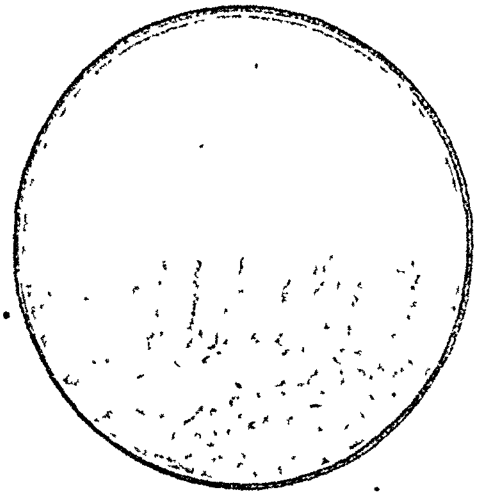

Figure 15

What becomes of the blood vessels and the nerves in those portions of the pulp that are converted into territories of dentin cells?

I attempted to solve this query many years ago, and have made it the subject of a comprehensive investigation. The main results of my studies have been described in a lecture. I found that the blood vessels either undergo atrophy or are converted into intraglobular spaces. I also showed that the nerves, with exception of the axis cylinders, are converted into a hyaline substance that later undergoes calcification and that the axis cylinders partially disappear and partially persist. At the same time I showed that these cylinders are very difficult to demonstrate histologically.

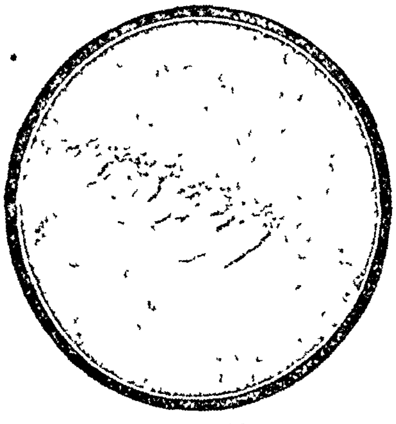

Figure 16.

One of my arguments in favor of the view that new pulp areas are constantly included in dentin formation, is that the histologic structures within and below the odontoblast layer undergo continuous changes. At one time we may see numerous capillaries between the odontoblasts, occasionally even between them and the layer of dentin; in other cases, a layer of odontoblasts will be found containing no trace of blood vessels. Sometimes the pulp immediately below the odontoblasts contains very many cells and sometimes it contains very few. Frequently a large number of very fine fibers are seen in this zone, constituting what is called Weil's layer; in other instances this layer will be found to consist of a finely granular material containing neither cells nor fibers. The vaso-dentin of fish teeth is a classical example of the continuous participation of pulp territories in dentin formation without the agency of odontoblasts. If we look at the question in this light, the dentin fibers must need assume an altogether different histogenetic relation to the odontoblasts than has hitherto been postulated. It seems impossible that the fibers should arise exclusively from the odontoblasts that are situated at the surface of the pulp, and they must also be imagined to arise in part from pulp cells situated deeper down in the pulp. In other words, they must be more or less preformed in the pulp, and can not be said to originate by metaplastic transformation as a residuum of the dentin cells in the process of dentin formation.

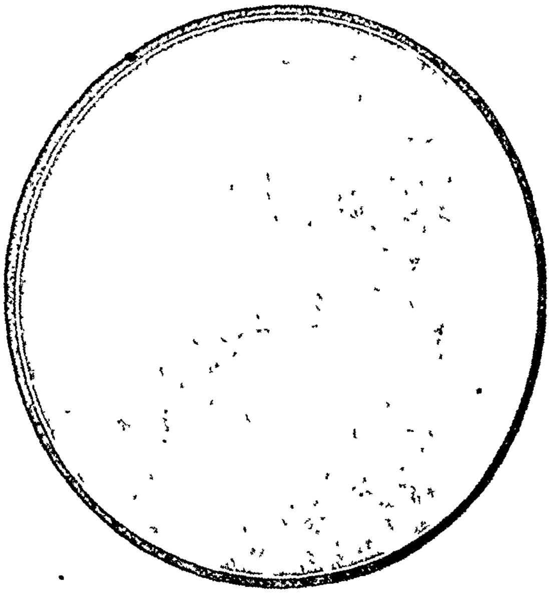

Figure 17.

The next slides demonstrate these postulated conditions. In Figure 14, made from the molar tooth of a young rabbit, a layer is seen underneath the young dentin that contains very few cells and that is traversed by fibers. Here dentinogenous disintegration of odontoblasts has taken place and the dentin fibers originate from the deeper cells.

Figure 15 is made from the tooth of a sheep fetus and under a high power shows fibers that run between the multiple layer of odontoblasts. In other words, these fibers pass through the whole layer of the odontoblast cells into the dentin.

Figure 16 is made from the pulp of a young human premolar. Fibers will be seen passing from the layer of odontoblasts deep down into the pulp; these fibers constitute the so-called layer of Weil.

Figure 17, made from the same series of cuts as Figure 16, shows a spot in Weil's layer under a higher power. Numerous fibrillæ are seen to originate from the circumference of a single capillary. These fibers enter the odontoblast layer. They are very different in appearance; most of them stain like fine connective tissue fibers; some of them are fine tubules that are occasionally found to contain a few red blood corpuscles. In most cases, however, they are so fine that blood corpuscles can not pass through. Formerly I described these tubes as lymphatic channels, but am now inclined to the belief that they are blood vessels and that they constitute very fine nutritional or tissue fluid fibers of a variety that has hitherto never been described in dental tissues. By a special method of preparation I have been enabled to demonstrate large numbers of them between the dentin cells, and could also repeatedly demonstrate their presence in dentin. These channels, that vary in thickness from one-fourth to one-third the width of a cell nucleus, usually terminate in a knob-like loop.

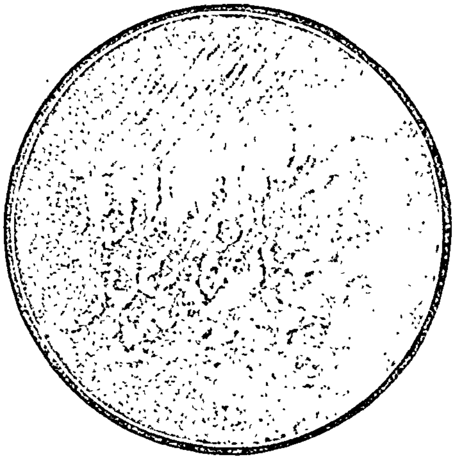

Figure 18.

I call your attention particularly to these channels and capillaries that pass between the dentin cells, for there is resemblance in regard to distribution and location between these structures and the dentin fibers. In Figures 15, 16 and 17 both structures are seen to pass side by side through the odontoblast layer and below it, i. e., in Weil's layer; but I have also been able to show repeatedly that in addition to Tomes' fibers fine channels frequently enter the dentin, the method I employed for demonstrating their presence being either injection of the specimens or special preparation of a series of cuts made from the fetus of cows, fish and sheep.

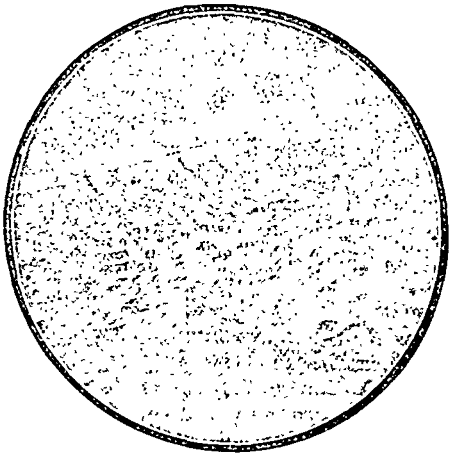

Figure 19.

The question of the nutrition of dentin can only be solved after the relation existing between Tomes' fibers and the fine channels that I have demonstrated between the odontoblasts is explained.

I believe, however, that I have definitely solved the question of the sensibility of dentin by my demonstration of the entrance of nerves into the dentin. That the sensibility of dentin is not dependent on the presence of odontoblasts in the dentin, as taught by Black, Walkoff and other authors, could be demonstrated clinically by the fact that teeth whose pulp was completely calcified and that contained no more odontoblasts were still highly sensitive. In these cases of general calcification the axis cylinders were not involved in the process and remained intact.

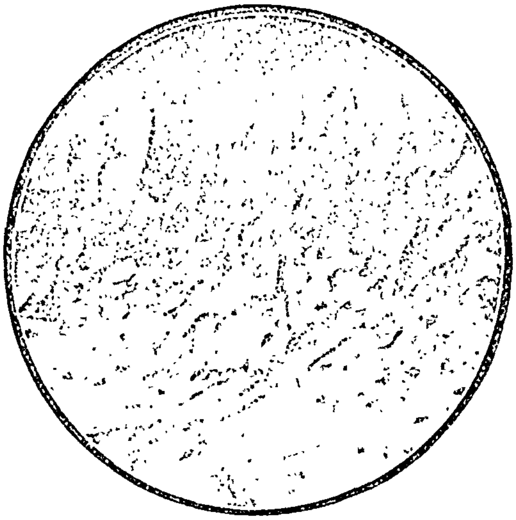

Figure 20.

Boll in 1868, Boedecker in 1883, the writer in 1892 and Römer in 1899 demonstrated the fact that pulp nerves pass into the layer of odontoblasts. The deviation of nerve fibers between the odontoblasts and the dentin was observed in 1892 by Retzius and by Huber in 1899. The entrance of nerves into the dentin I demonstrated in 1892 and Römer in 1899.

In older specimens nothing but pale fibers are seen in those places were nerves entered into the dentin. These fibers, however, are clearly differentiated from the other tissues. This may be seen in slide 25, made from an old specimen prepared from a young rabbit's tooth.

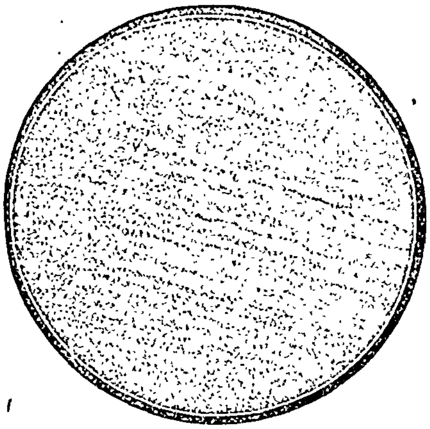

Figure 21.

In preparations made according to my modification of Mallory's stain, the axis cylinder is clearly differentiated from all other stained tissues. Preparations of this character, as will be seen from the following slides, can be preserved for a passably long time.

In Figure 18, made from the dentin germ of a sheep's fetus, a few of the axis cylinders that run toward the center of the odontoblast layer between the dentin cells can be clearly recognized. They pass from the parietal sheath or the nerves of the dentin germ and can be followed through the whole odontoblast layer beyond the boundaries of the dentin.

In Figure 19 the entrance of nerves into the dentin can be seen still more clearly. One of the axis cylinders is seen to terminate in a knob-like ending in the dentin, and another one terminate in a similar way before reaching the dentin, i. e., in the odontoblast layer.

The course of the nerves in the odontoblast layer varies greatly. They often traverse the layer in the same direction as the dentin channels and the odontoblasts. In some places they deviate from this direction. Sometimes they form a veritable plexus with all their small lateral branches. The nerve fibrils apparently originate from cells and cell nuclei. If one looks carefully it will be seen, however, that they are merely close to the cells and really pass alongside of them.

At the point of division of the nerves of the odontoblast layer I have frequently seen one or more spindle-shaped enlargements. Such places are shown in Figure 20.

In conclusion, I take the liberty of demonstrating in Figure 21 the course of the nerve fibers within the dentin channels in a cow's tooth. The preparation was made according to Golgi by the sublimate method after the specimen had previously been injected with methylene blue. The fibers of Tomes appear pale; the fibers that I call axis cylinders are darker and frequently form spirals around the dentin fibers. They are situated between the walls of the dentin channels and the fibers of Tomes.

Basing on a series of histologic facts that I have attempted to illustrate to you with the aid of a few photographic slides of some of my specimens, I believe I have demonstrated the generally accepted odontoblast theory, the theory of dentin formation and of the sensibility of the dentin are untenable. While I do not dare to substitute a new and complete theory for the old one, I hope, nevertheless, to have contributed a few new facts by my investigations that may form the basis of an odontoblast theory that will satisfy us both in an anatomic and physiologic sense.

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# DIABETES AND OBSCURE PHYSIOLOGY.

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Of the many unsolved problems in pathology none perhaps possesses a greater interest to both theorist and practitioner than does the origin of diabetes mellitus. Its etiology is even yet shrouded in mystery, notwithstanding the enormous amount of study that has been devoted to it, and the situation may be summarized in the statement that of no other pathologic condition is there so much known, and yet so little. Many and various have been the theories advanced from time to time, each having a few facts apparently supporting it, but as they conflicted with each other in important particulars, one after another they were abandoned, for the advancement in physiologic chemistry made it possible more and more to explain the different and complex processes by means of which the several classes of foods passed through stage after stage of preparation and elaboration until they were fit to become incorporated into the tissues of highly organized beings. One after another the more conspicuous organs were taxed with the responsibility, and were believed to be the seat of the diabetic phenomena. But with the progress of science the theories on which these opinions had been based were discredited, and they were reluctantly given up.

The theory that will be set forth in this paper is believed to be new as concerns its application to diabetes mellitus; but it has, however, appeared previously in medical literature in relation to purely physiologic researches concerning the ultimate state of the carbohydrate foodstuffs immediately preceding their absorption into the tissues. The various known facts on which this hypothesis is erected will be cited as required, not always chronologically, but in the order in which they apply here.

The inquiry concerns physiology as well as pathology, and, if the theory is correct, is as important to one as to the other. But before making any definite statements it will be in order to review briefly the experimental and clinical knowledge of diabetes mellitus, adding thereto our own observations.

The history of the scientific study of the subject up to the present, may with propriety be divided into four periods.

The first was inaugurated by the brilliant "piqûere" experiments of Claude Bernard. The important results finally arrived at through this class of experiments were, first, that violent stimulation applied to various parts of the nervous system was generally followed by glycosuria; second, that this was the result of a sudden liberation of glycogen in excess sufficient to pass through the renal parenchyma. Here we have strong evidence to show that under some conditions the nervous elements alone may be concerned in the production of some of the diabetic phenomena. This possibility has been further strengthened, in some instances, by necropsies showing definite pathologic conditions in important nervous locations. To this class may perhaps belong the occasional instances of diabetes following severe shocks of emotional and psychic nature; also those grave cases where no morbid anatomy could be found.

The second period began with the series of experiments that demonstrated the power of certain drugs, notably phloridzin, to produce temporary glycosuria. But the glycosuria obtained from phloridzin was found to be very different from that derived from the preceding experiments on the nervous systems. According to Von Mering and others it does not appear to depend upon glycogen liberation, the blood being poor in dextrose, and the glycosuria occurring in starving animals, and even after extirpation of the liver. The dextrose here must be formed principally from the albuminous tissues, and it seems probable that the glycosuria is the result of an altered condition of the renal functional tissue, brought about by direct action of the poison itself. This opinion is held by no less an authority than Von Noorden, who suggests the possibility that in some clinical cases the glycosuria may be the result of unknown toxins analogous to phloridzin circulating in the blood and acting on the kidneys. It seems evident from these researches that there are poisons existing in Nature capable of causing diabetic symptoms through their influence on the renal functions, and therefore clinical examples of diabetes mellitus from such sources are not at all beyond the range of possibility. There is no question but that the kidneys frequently exhibit pathologic conditions in diabetes, many showing catarrhal nephritis and at times fatty infiltration. One authority states that albuminuria is present in about one-third of all cases. Of course much of such pathology is without doubt secondary, being the result of long overwork in excreting water, and irritation from the constant transit of sugar. However that may be, the results of the phloridzin tests must be considered to occupy an important place in the literature of this disease.

The third, or pancreatic, period marks the most important advance thus far made in the study of diabetes mellitus, bringing also new discoveries in physiology. Since attention began to be seriously directed to the pancreas as the organ most concerned, surprising and far-reaching facts have been brought to light. The pathologic findings in about 50 per cent. of the necropsies showed plainly that the functions of this gland were interfered with or suppressed, and these observations perhaps inspired the painstaking and conclusive experiments of Von Mering and Minkowski, and also, independently, of di Dominicis, an Italian scientist. The importance of the work of these men in this field is simply incalculable. It has demonstrated beyond all reasonable doubt that removal or total suppression of function of the pancreas is invariably followed by typical diabetes mellitus. Since such experiments in the human species are entirely out of the question, it follows that these scientists were compelled to obtain their results from careful tests made on the lower animals, dogs having been selected for the purpose. The objection might be—and has been—urged that while the results of such experiments were probably conclusive in regard to the lower animals, they would not necessarily hold good for mankind. In reply to this it is now possible to cite at least one case in man which may be considered as experimental in the diabetic sense. It is referred to by Osler as a patient of W. T. Bull who died of diabetes after extirpation of the pancreas. The previously referred to investigators further showed that the anti-diabetic property does not reside in the pancreatic juice; that a small portion of the pancreas, with its blood supply, remaining in the body prevents diabetes; that practically total extirpation of the organ is necessary in order to produce diabetes. They concluded that the action of the pancreas on the excretion of sugar is probably specific, no other organ possessing it. The latter statement is perhaps too radical in view of more recent studies of the suprarenal capsules. This paper will, it is believed, furnish evidence that will further strengthen the belief in the pancreatic origin of diabetes mellitus, possibly in all of the true cases; but no effort will be made to prove that all cases of apparent diabetes mellitus are necessarily pancreatic in origin, or can be explained by any one theory. But to return. The most significant facts shown in the pancreatic experiments were, that the pancreatic juice had no influence on the production of diabetes, and that the presence of a small portion of the pancreas prevented its occurrence. Of course the only explanation is that the pancreas acts in a manner similar to the ductless glands and that its internal secretion is of far more importance than its digestive contribution.

After consideration of the results derived from pancreatic sources it seems unreasonable to doubt that many cases of diabetes, probably the majority, have their origin in diseases of the pancreas. Lépine's experiments and theory furnish more evidence in support of the conclusions of Von Mering and Minkowski, and di Dominicis, but as it forms a strong link in the chain of evidence favoring the theory to be put forward here, its consideration will be postponed until it is taken up in proper order.

The fourth period in diabetic research may be said to have begun with Crofton's discovery of the relation thereto of the suprarenal capsules, made, I think, in 1901, The present writer regrets not having been enabled to more than glance at the important and very interesting work recently done as a result of this discovery. But the most pertinent fact demonstrated seems to have been that injection of adrenal extracts can cause glycosuria. Previous workers have shown that several chemical substances are able to induce glycosuria, but none of these have been shown, as yet, to occur naturally in human or animal bodies.

At last, however, a substance physiologically present is found to have the property of causing glycosuria when administered under certain conditions. A wide range of possibility is thus unrolled, and a new field, nearly unexplored, presents itself for investigation. Much testimony has since accumulated, confirming the first important discovery and bringing to light new facts, several of which must be referred to.

It was stated in one publication that adrenal extract had been found to have the additional property of converting starch into dextrose. Herter, in 1902, found that when a solution of adrenalin chlorid was applied to the surface of a dog's pancreas glycosuria resulted. He also found, however, that several foreign substances, known to possess power as reducing agents, were able to effect the same, while oxidizing agents had no effect whatever. Herter concluded from these experiments that adrenal secretion produced glycosuria by means of its reducing power of the pancreatic tissue. I shall have occasion to refer again to this subject.

Having enumerated the main conditions now known to bear a causative relation to diabetes mellitus, or to glycosuria, the physiologic aspect of the matter must receive attention. For the purposes of this paper, the carbohydrate group of foodstuffs is the one mainly to be considered. Of course we are aware that in severe glycosuria dextrose may be formed from albuminous tissues, and even from fat to a slight extent, but the most important sources of dextrose are admitted by all to be the other carbohydrates. Physiologic chemistry has hitherto been unable to follow the carbohydrates beyond the dextrose stage, and there has consequently been a gap in our knowledge between the stage and the final assimilation by the tissues; or rather, the consensus of opinion seems to be that normal tissues absorb dextrose as dextrose, without further transformation. From this idea a theory to account for diabetic phenomena was formerly advanced postulating disturbance in the tissues of the function to absorb dextrose. But there is evidence on record strongly implying that dextrose does not express the final effort of Nature in the preparation of the carbohydrates for nutritive purposes.

In 1892 Lépine found that fresh normal blood, after being kept in an incubator at physiologic temperature for some time, contained decidedly less dextrose than at the beginning of the experiment. In diabetic blood under the same conditions the loss in dextrose was not so pronounced. While not as yet confirmed, that I am aware of, by later workers, this demonstration not only receives confirmation from some of much earlier date, but is thereby actually much extended. Lépine's work in this direction seems to have proceeded no farther than the observation that dextrose was lessened in amount in blood which had stood some time at normal temperature. It stands to reason that if dextrose is diminished under such conditions something else must be formed. The next thing, then, to determine is, if possible, what this something is, and therefore another series of experiments will now have to be referred to.

In 1872 Ford made a number of careful tests and elaborate calculations in relation to postmortem chemical changes occurring in normal blood and tissues. He worked on the theory that sugar is first converted into alcohol before it is possible for the tissues to derive benefit from it. In a large number of experiments a substance resembling alcohol, physically and chemically, was invariably recovered in minute amounts from fresh blood and tissue; from putrescent blood and tissue a much greater amount of this substance was always obtained. The amount obtained by experiment corresponded approximately to the amount of alcohol calculated, based on the amount of carbon ingested and on that exhaled. The smallest amount of alcohol was obtained from fresh liver tissue, and by far the largest from putrescent liver tissue. It is hardly conceivable that this alcohol, if such it was, resulted from anything else than the dextrose in the circulation, and in the case of the putrescent liver tissue from the store of glycogen previously liberated as dextrose. The tests on which Ford relied to demonstrate that the substance he obtained was alcohol were the usual ones then known to chemistry.

Ford's remarkable researches received corroboration in the main idea in 1873, when Dupré and Béchamp—it would appear independently—discovered a substance resembling alcohol in normal urine, and from persons who had not exhibited alcohol for a long time. This discovery is also said to have been first made by Lieben in 1870, and he also observed the phenomenon in the urine of dogs, horses and lions. In 1875 Rejewski obtained the substance from the urine of rabbits.

The statement that the substance found by Ford and the others was really alcohol, has been contested, as might naturally have been expected. The substance in question responded to the chromic acid test and the iodoform test; its watery solution had a lighter specific gravity than water; it yielded acetic acid on oxidation; and concentrated solutions were inflammable; the optical appearance in the conducting tubes, as noticed by Ford, resembled that of alcohol. Commenting on the fact that this physiologic substance reacts to all the known tests for alcohol, H. C. Wood very pertinently observes that "possessing the physical and chemical characters of alcohol, to ordinary minds it is alcohol."

The experimental testimony is conflicting as to the exact place of alcohol as a nutritive agent, its relation to heat production, electro-chemical action, carbonic acid and urea elimination, etc. But there is no question of the fact that alcohol is burnt up, or loses its identity, in the system, and that practically none of that ingested is eliminated as alcohol, unless administered in toxic amounts. It must be capable, therefore, of supplying, to an extent, the needs of the organism in health, and far more so in some pathologic conditions—a matter of every-day clinical experience.

In the light of present knowledge it would appear probable that the asserted conversion of dextrose into alcohol in the system is effected through the agency of an enzyme normally present therein. Our own experiments along this line, made in 1901-1902, are now in order. I am under obligations to Surgeon P. M. Carrington, in command at Fort Stanton, N. M., for extending to me such privileges as the laboratory of that station afforded while engaged in this work.

Solutions of dextrose, sterilized by boiling, were treated when cool with pancreatin preparations, and then set by in a warm place. After a number of hours small portions of the mixtures were distilled off and subjected to the iodoform and chromic acid tests for alcohol, giving in each case a positive reaction. More solutions were prepared and analyzed quantitatively, before and after prolonged treatment with pancreatin, to determine if any variation occurred in the percentage of sugar. A large number of these tests demonstrated a slight loss of sugar in nearly every case after having been acted on for some time by the pancreatin. Solutions of levulose tested before and after in the same manner showed a greater proportional loss of sugar than did those of dextrose. It seems hardly necessary to add that in each experiment the amount of water lost by evaporation during the period of fermentation was replaced by distilled water before reanalysis; and that the differing affinities of dextrose and of levulose for copper hydroxid were taken into account. Solutions of cane sugar treated with pancreatin gave, in their distillates, the iodoform and the chromic acid reactions for alcohol. The vapor from a dextrose and pancreatin solution imparted a slight cloudiness to lime water, but as the experiment was rather carelessly made; and, unfortunately, was not repeated, it can not be considered as positive. Pancreatin itself contains considerable soluble material capable of reducing copper solutions, and this self-contained reducing agent undoubtedly took some part in the fermentative processes. Being apparently for the most part dextrose its presence should not detract from the importance of the other findings, except in the instance where an alcoholic distillate was obtained from a cane sugar and pancreatin solution. A strong point against any undue importance of this factor in the other experiments is that dextrose and levulose solutions did not lose in sugar proportionally, and that the variation in the levulose was inversely what might have been expected from ordinary accidental fermentation.

Assuming, then, the correctness in the main of all the experimental findings herein adduced, the situation physiologically would appear thus:

1. That in normal blood dextrose undergoes chemical modification before absorption by the tissues.
2. That in normal blood alcohol develops from disintegration of dextrose.
3. That alcohol is present in minute quantities in the urine of total abstainers.
4. That in chemically pure solutions of dextrose and levulose treated with pancreatin, sugar is lost and alcohol (and carbonic acid?) developed, the change being more marked in the case of levulose.
5. That the agent responsible for the chemical reaction is an enzyme normally present in blood.
6. That this enzyme has its origin in the pancreas alone, for when that organ is removed dextrose remains unchanged.
7. That interference with or disturbance of this function of the pancreas initiates a group of phenomena known clinically as diabetes mellitus.

### SOURCES OF ERROR.

It is true that at the present time much of the experimental data referred to lacks corroboration by other observers, notably that of Lépine, Ford, and the present writer. I have not seen Ford's original paper, being indebted to the section on alcohol in H. C. Wood's Therapeutics for a synopsis of his results, and also much additional valuable information. But that there were sources of error in Ford's work seems probable when it is remembered that in his time bacteriology as a science hardly yet existed, and that therefore he may not have taken into account the action of saprophytic bacteria in the change from dextrose to alcohol. In this way it is likely that his results with putrescent tissues were partially erroneous. But in view of the very significant fact that he obtained traces of alcohol from fresh blood and tissue, the importance of any possible errors in connection with tissue having undergone bacterial action ought not to be exaggerated.

Such objections, however, can not be urged in regard to Lépine's results, for they were reached at a time when the principles of modern bacteriology were familiar to all contemporary scientists. Though Lépine is not on record, that I am aware of, as having demonstrated alcohol, he certainly has demonstrated the complementary fact, namely, the disappearance of dextrose in normal blood, and to a lesser extent in diabetic blood. Lépine's and Ford's separate blocks of evidence, when placed side by side, form a chemically perfect whole, the former having shown that sugar disappears, the latter that alcohol appears. Collateral testimony is afforded by the work of other investigators cited who demonstrated the presence of traces of alcohol in normal urine.

In our own work, which had for its object the demonstration of a pancreatic enzyme able to convert dextrose into alcohol, the principal source of error was infection of the solutions with saprophytic bacteria. By a process of exclusion it was made evident that the infection was derived from the commercial preparations of pancreatin, a fact of no importance whatever ordinarily, but of considerable in experiments of this nature. In only two instances were perfectly sterile solutions made naturally. Efforts were then made to control bacterial action by means of small amounts of boric acid, oil of cloves, etc. It was found that in order to suppress saprophytic action much more of these substances was required than is currently believed, so much, in fact, that the action of the enzyme was nearly inhibited. By comparing the notes of a large number of experiments under these adverse conditions it was shown, however, that a slight loss of sugar nearly always resulted. The source of error here, if there was one, would have occurred in the manipulation, toward the end of each test, of the Fehling solution, by no means an ideal method where small differences have to be computed, but perhaps the best in the long run. The levulose preparations showed a greater loss of sugar than did those of dextrose. In solutions of either sugar with pancreatin where no antiseptic had been added, and where saprophytic action occurred, the loss of sugar in a given time was far greater, especially in the case of levulose. The infecting organism most in evidence was a large spore-forming chain-rod, generally alone, occasionally accompanied by other germs in small numbers. The yeast fungus was not found to be present at any time.

How much of the large amounts of sugars lost here, in excess of that lost where bacterial action was inhibited by antiseptics, depended upon the pancreatic enzyme, and how much was due to bacteria, we are unable at present to say, and can place reliance only on the results obtained where the action of bacteria was eliminated. It is certainly worthy of note, though, that the corresponding losses of dextrose and levulose under the same conditions of infection were so widely different as to imply something more at work than bacterial action alone.

Among the number of experiments made to demonstrate the development of alcohol were two in which, fortunately, no infection occurred and no antiseptic was employed. In these cases the principal source of error to be considered would have been in the chemical tests to which the distillates were subjected. Both the iodoform test and the chromic acid test are well known to react in the same manner with many substances besides ethyl alcohol. In this connection it was observed that the chromic acid test gave the same color reaction with methyl alcohol, dextrose, levulose, lactose and cane sugar. Seeing that both tests gave typical reactions with material derived from sources more likely in the natural order of things to generate ethyl alcohol than anything else; and seeing that such a result fits in very naturally with Lépine's and Ford's results; it must be admitted that strong reasons exist for presuming the reacting substance to have been alcohol.

An attempt will now be made to account for diabetic phenomena on the theory that they are the expression of an abnormal condition wherein the hypothetical alcoholic function of the pancreas is disturbed.

### DIABETES MELLITUS.

If it is a fact that the normal internal secretion of the pancreas must convert dextrose into alcohol before the tissues can make use of it, then it naturally follows that a consideration of this obscure function would have importance in relation to true diabetes mellitus of pancreatic origin, as our knowledge stands at present. The various and diverse manifestations of the disease, when considered in this light, seem to fall easily into well-defined places, while at the same time theories placing the responsibility on other organs are seen to be untenable. These remarks are not intended to apply to other than pancreatic forms of diabetes, or glycosuria, for we believe that such may occur, and will venture a few remarks on them in their proper place. We will begin the discussion with the behavior of the liver in reference to pancreatic diabetes.

The most significant feature here is the absence of glycogen, practically, in the liver and muscular tissue. This, together with the notable excess of dextrose in the blood, suggested at least three theories, two implicating the liver; the first for over-activity, the second for under-activity; while the third placed the blame on the tissues in general as having partially lost their power to absorb dextrose. The pancreatic alcoholic theory at once clears up all this; the liver is seen to be merely doing its duty while the tissues, being unable to assimilate the unaltered dextrose furnished by the liver, are imperatively and without intermission demanding nourishment. But the nervous mechanism, which in health had apprised the liver of the needs of the tissues, is still uninjured, and the constant demand for food is as constantly responded to by the liver in the only way it is capable of doing; it has no time to store up glycogen, and the fact that the excess of dextrose given out is injurious to the organism implies no fault in the liver whatever, but actually the reverse. If the liver were the seat of the assumed normal alcoholic change in the condition of dextrose, then there would be found no free dextrose in the blood except in minute amounts like glycogen, for all sugar would be immediately seized and stored up as glycogen, never to be released except in the form of alcohol.

The existence of glycosuria and polyuria, without other evidences of nephritis, is merely symptomatic; the glycosuria because the normal percentage of sugar is exceeded, and the polyuria because of the irritating action of dextrose on the renal tissue. Secondarily, of course, a true nephritis will probably occur if the condition is not ameliorated.

The remarkable and inexplicable property of levulose to form glycogen and diminish glycosuria can now be explained. Levulose is more rapidly and easily converted into alcohol than is dextrose by the pancreatic enzyme, and the reduced amount or power of the latter in diabetes is thus able to take care of considerably more levulose than dextrose, and the liver and muscular tissues are enabled to store a certain amount of glycogen.

As milk is comparatively well tolerated in diabetes, it follows that lactose must have properties somewhat similar to those of levulose. I have not experimented with lactose as with levulose, but would expect to find it somewhat similar in this respect. It is noteworthy that there is a curious analogy in the purely chemical and the purely physiologic contrasting properties of dextrose on the one hand, and levulose on the other. A definite amount of copper hydroxid will combine with more levulose and still more lactose than with dextrose; in physiology, on our theory, levulose and lactose are more readily appropriated by the system than is dextrose, the fact being especially noticeable in diabetes mellitus.

The increased elimination of urea and uric acid is natural and proper, since in this disease a larger amount of albuminous material is employed, irrespective of the kind of food ingested, for if that is lacking in proteids the deficit is made up from the tissues themselves.

The fatty condition of the blood is apparently a further effort of Nature to store glycogen and form dextrose. It has been shown that fat in extreme conditions, as in starvation, can form glycogen, and therefore indirectly, dextrose. Diabetes mellitus is merely another aspect of starvation. The greater part of the large amount of food ingested is useless to the organism, for the system is lacking in the element whose presence alone can render it available for its needs. The condition has its analogy in the fable of Tantalus, striving forever to sip "The cup that flies from his arid lip."

The tendency toward acidity of the blood in later stages of the disease, with the development of acetone, diacetic acid and beta-oxybutyric acid, may be referred to several causes. The alkalinity of the intestinal tract depends principally on the bile and pancreatic juice. The liver being constantly overtaxed in the exercise of the glycogenic function and the preparation of proteids and elimination of urea, must in time neglect the biliary function as being subordinate to the others in importance; while the pancreas, diseased in one of its most important functions, can hardly be expected to keep up the standard of its intestinal secretion. It follows consequently that the intestinal juices become in time deteriorated, thus favoring the development of acetic and lactic and other acid substances. These eventually begin to enter the portal circulation, and, after a time, the general circulation, and ultimately change the reaction of the blood. The normal power of the liver to arrest and render harmless the poisonous substances developed in the intestines, becomes diminished, and these adding their baneful influences to that of the general hyperacidity, finally give rise to comatose symptoms.

### OTHER FORMS OF DIABETES. RENAL GLYCOSURIA.

There is evidence showing the possibility of diabetes in some cases arising from the kidneys themselves. In the first place, albuminuria and different degrees of nephritis have been observed in perhaps one-third of all cases of diabetes, while definite pancreatic lesions have hardly occurred in more than 50 per cent. of cases.

While in many of the cases exhibiting renal involvement the pathology may be merely secondary to pancreatic disease, it can not always be proven that such is the case. In the series of experiments of which the one employing phloridzin is the type, we are shown that renal diabetes is a possibility, either as resulting from disturbance of osmotic equilibrium, or it may be, of the renal synthetic functions. The fact that severe forms of Bright's disease do not often show glycosuria, complicates the inquiry, and supports to some extent the theories relieving the kidneys of responsibility in glycosuria. The question of renal involvement will be again alluded to under the head of therapeutic suggestions.

### GLYCOSURIA OF NERVOUS ORIGIN.

That pathologic conditions involving the nervous system can induce glycosuria has been shown experimentally and clinically; but even here the glycosuria must be indirectly referred to the agency of one or more of the internal organs whose ordinary routine has been disturbed by disturbance of its innervation. The osmotic balance of the kidneys may be disordered; the glycogenic function of the liver, the alcoholic function of the pancreas, or the internal secretion of the adrenals —perhaps also that of the thyroid—may be altered. Thus it may be inferred that defective innervation can, theoretically, inaugurate glycosuria through a number of sources.

### ADRENAL DIABETES.

With the discovery of the power of adrenal extracts to cause glycosuria (and to convert starch into dextrose?) a new and interesting element was added to the subject of diabetes. By applying these facts to the present inquiry, together with the known physiologic action of the glandular extract, and assuming the existence of a condition of the adrenals causing over-production of their internal secretion, it would appear that glycosuria may be induced in four different ways, or by a combination of one or more of them, namely, by increased blood pressure; by irritation of the renal parenchyma; by inhibition of the alcoholic function of the pancreas; and by direct action on the stored up glycogen, converting it into dextrose.

In the event of under-production of the adrenal secretion we might assume that one of the first compensatory efforts of Nature would be stimulation of the alcoholic function of the pancreas, the object being to make up the deficit in adrenal secretion by an increase in the production of alcohol, for the physiologic action of the latter ought to enable it to partially substitute the former temporarily. Such a possible substitution has its analogy in the splitting up of the proteid molecule with the formation of an alkaline ammonium compound when from any cause there is a tendency toward acidity of the blood which can not be controlled by the alkaline substances normally present. But since over-stimulation of any organ tends eventually to loss of function, it would follow, on this theory, that a time would come when the pancreas could no longer exercise its alcoholic function sufficiently for the needs of the system. Then the liver would endeavor to supply the want by liberating an increased amount of dextrose, and it would then be only a question of time when glycosuria and the concomitant symptoms of pancreatic diabetes appeared. It may be reasoned in this way that the pancreatic and adrenal functions are intimately related; the adrenal secretion may be essential in regulating the exercise of the pancreatic alcoholic function in health, while in the event of insufficiency of the former the latter would be stimulated.

### EXPERIMENTAL CONFIRMATION.

It is much to be regretted that confirmation by other observers is yet lacking of much of the data essential to the theory herein advanced. Even Lépine's results, significant as they are, do not seem to have received corroboration; while Ford's work is never alluded to in treatises on diabetes and seems to have escaped attention altogether. My own work is very incomplete at best, but as far as it goes I feel that it can not be altogether unimportant, and trust that it will soon be taken up by others, along with Lépine's and Ford's observations. I intended to submit my results for publication early in 1902, as soon as the series of experiments outlined should have been finished. But unforeseen interruptions occurred and official duties in connection with the routine work of the Sanatorium interfered; and as there is even yet no immediate prospect of my being able to resume the experiments, I have decided to submit such as have been made, together with the theory they suggest, in the hope that the work may be investigated and extended by others, and its value, if it possesses any, be determined.

Because of the presence of saprophytes in the commercial dried preparations of pancreatin, I would suggest that they be discarded in experiments of this nature, and that the fresh organs of animals recently killed be employed. The amount of dextrose or reducing substance in the gland itself or its extract should be determined before treating the sugar solutions. Sufficient alcoholic liquid should be obtained so that its physical and chemical characters can be established with certainty. In the chemical equilibrium of the system the amount of alcohol present must be very small at any time compared to that of dextrose, and therefore in any experimental solution the relative proportions may be expected to approximate similarly; for the principle of "reversibility of enzymes" should be in operation here as elsewhere in the system. If alcohol is really formed the amount should of course bear definite relation to the amount of sugar lost. The fact that small quantities of alcohol are produced in the intestines should not be ignored even though it can not have great significance here, since alcoholic development occurred under conditions excluding intestinal co-operation. The reactions with levulose and lactose should be particularly noted because of their peculiar properties in diabetes mellitus. In all cases control tests would be imperative. The action of adrenal extracts on sugars and starches ought also to receive further attention. The fact should be taken into account that the pancreatic alcoholic enzyme must be present, not only in the pancreas, but throughout the system to a certain extent. It has been asserted that glycerin may assist in the formation of glycogen; it would also be worth while to investigate the behavior of ingested alcohol in regard to that function, remembering that Ford found less free alcohol in fresh liver than in any other tissue. In testing diabetic material for alcohol one would expect to encounter much less than in the normal, perhaps none at all. The chromic acid and iodoform tests would be valueless here because of the likelihood of the presence of acetone, a substance giving the same reactions as alcohol with these tests.

### THERAPEUTIC SUGGESTIONS.

If the theory set forth here is the correct one, then the importance of alcohol in the treatment of diabetes is the most obvious feature that presents itself. Based on clinical observations, the best authorities are already nearly agreed as to the beneficial influence exerted by alcohol in diabetes when given in moderation. Clearly on our hypothesis reasonable amounts of alcohol will relieve the pancreas, liver and kidneys for the time being by furnishing ready prepared nourishment and force to the starving tissues; there will be temporary suspension of the immense and constant and all but unavailing efforts of those organs to relieve the strained situation. Very possibly some storage of glycogen may be accomplished during the period of relief thus afforded.

With regard to the administration of pancreatic extracts, Von Noorden and others have not had very encouraging results. Only two methods would appear available in the employment of these preparations. One way would be to give them with or immediately preceding meals, the idea being to take advantage of the presence of the alkaline saliva, since pancreatin can not act in acid media; the doses should be large in order to assure the absorption of an amount of the enzyme, for the major portion would soon be destroyed in the stomach. The other way would be incorporation in alkaline nutrient enemata and injection into the rectum or colon.

I have seen great apparent benefit follow the use of mescal de tequila in two cases, both of them young subjects. Whether this was merely from the alcohol present, or because of specific properties possessed by the drink, I am unable to say, though inclined to put some faith in the latter possibility.

Mescal is a fermented intoxicating liquor derived from the *maguey* plant, native to southern New Mexico, Arizona and Old Mexico. The unfermented juice of the plant is called pulque, and it, as well as mescal, has a great reputation among the natives as a specific for all "kidney" diseases, pulque being the most thought of. With them diabetes is naturally considered a disease of the kidneys, but there really appears to be some firm ground on which the popular faith in the drug rests, both as regards diabetes and Bright's disease. That it exerts some special influence on the kidneys is certain. In several cases of Bright's disease experimented on at Fort Stanton, N. M., it was found that chronic interstitial cases were much benefited in a short time, both as regarded the amounts of urine and albumin. Chronic parenchymatous cases were also speedily brought under the influence of the remedy, showing lessening of albumin, but there was at the same time a tendency toward suppression which had with it an element of danger. The cerebral effects of overdoses were unpleasant and were induced by much smaller amounts than mere whisky would have done.

In this connection I have to acknowledge my indebtedness to Dr. H. K. Pangburn, Acting Assistant Surgeon, and to Mr. J. E. Beck, Senior Pharmacist, U. S. M. H. S.; the former for daily quantitative urinalyses in the cases under observation; the latter for pharmaceutic preparations of extract of the maguey plant.

In view of its effects in Bright's disease, and remembering the possibility of renal diabetes, the suggestion may be hazarded that while the specific action of the maguey plant on the kidneys would perhaps account for its beneficial action in cases of diabetes of renal origin, it might not possess any value in the true pancreatic variety.

### ETHICAL CONSIDERATIONS.

The assumption of the existence of the alcoholic function of the pancreas, on account of its relation to nutrition in general, diet, habits, and the treatment of diabetes, brings up a final and important consideration, namely, the question of intemperance.

It has been suggested that were a theory such as this one to become generally accepted it would probably exert a baneful influence on the race in general by furnishing a physiologic excuse for increasing the consumption of alcoholic beverages.

When looked at superficially such a fear might seem reasonable; but when examined more critically it is seen to have no foundation.

Everyone is aware that perfect physical health means nothing more or less than perfect functional activity as established by Nature's immutable laws. All efforts made by man to modify these functions have signally failed, and no matter what abnormal extent of tolerance may have been achieved by the pleasure seeker, the epicure or the heavy drinker, their reckoning with Nature must come at last, for they have reckoned without their host.

The man would be a poor physician indeed who saw fit to recommend to his patients the consumption of unusual amounts of cheap glucose candy in place of a portion of their ordinary diet, because he had learned in the study of physiology that glucose represented an advanced effort of Nature in the preparation of the carbohydrate food group.

Exactly the same may be said in the case of alcohol and of the medical man who would advise the employment in health of alcohol as a substitute for a certain amount of food, because alcohol appears to be the final product of an important section of the foods, and, by such specious reasoning, more easy and natural to assimilate than ordinary foods. Nature has made abundant provision and has combined the various nutritive principles in a manner that can not be improved on in the essential particulars. No matter what the advance made in our knowledge of physiologic chemistry, mankind still have to depend on Nature's unvarying processes for their continued existence, and, physiologically, are neither better nor worse than they were ages ago. The natural processes involved in digestion, nutrition and assimilation are not intended to be altered in any way, either by increasing or lessening their scope. The fact that foodstuffs occur in forms that require such extensive elaboration in the system is sufficient evidence of the wisdom of such an arrangement.

When considered in this light it will be seen that the alcoholic theory in physiology is in reality a strong argument in favor of temperance. In health man needs no ready prepared alcohol whatever, except such as occurs naturally in some of the foods in small quantities.

But the situation is very different indeed when the management of disease has to be confronted. If alcohol is a physiologic necessity, as produced in the body in health, then it follows that in the treatment of many diseases its employment as a medicine would be of the greatest possible advantage to the patient. The most obvious indications for its administration would be in those pathologic conditions wherein the mysterious protective agencies are summoned to exercise their functions to the utmost limit in order to cope successfully with some foreign invasion or auto-intoxication which menaces the integrity of the system. Nearly every medical man of experience will concur in the opinion just expressed; while as regards the few who see fit to exclude alcohol altogether, on the ground of religious or other principles, no amount of argument, laboratory experiment or clinical experience, however convincing, can be expected to have weight.

In conclusion, then, from the standpoint of the alcoholic theory in physiology, based upon experimental and clinical results, it would appear that in alcohol we possess the most efficient agent for sustaining the vital forces of the system when its functional activities are paralyzed by the inroads of various diseases, whose presence necessitates the subordination of all other functions to those immediately engaged in the work of repelling the invasion.

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## RADIUM AND RADIANT ENERGY.*

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The discovery of radium is of universal interest. There is scarcely a science that has not been affected by it. But it can be of no greater interest to any one than to physicians, because of its therapeutic possibilities. The termination "um" indicates that radium has been added to the family of elements.

A substance to be admitted into the list of elements must have the following qualification: It must have a spark spectrum of its own. This spark spectrum must be measured and be different from all other forms of known matter. Radium fulfills this requirement. Demarcay has shown that radium has a spark spectrum of fifteen lines, with no lines belonging to any other element. The discovery of radium during the closing years of the nineteenth century was one of the most wonderful achievements of that century, from a scientific point of view. In some ways it amounts almost to a revolution in our theory of matter. The study of physics and chemistry has made the most rapid progress of any of the sciences in the past few years. The textbooks which the youngest of us used are out of date, so rapid have been the changes and progress along this line of study.

So it may be well to note, in introducing this subject, some of the more essential changes, without understanding which we can not gain a clear idea of the subject before us.

We were taught as school boys that that smallest particle of hydrogen, called an atom, was the least mass of matter known. Since that time, however, Thomson has discovered that all space is filled with inconceivable small corpuscles. These corpuscles, Professor Larkin tells us, are doubtless either electricity in its ultimate refinement or very closely allied to it. A Thomsonian corpuscle is only 1/1000 the mass of an atom of hydrogen. They are so small that the wide spaces in a bar of steel or even in the diamond itself, permit these corpuscles to pass through them. They are positive or negative, electrically speaking. But the corpuscles flowing between all kinds of matter are negative.

Twenty-five hundred years ago Leucippus, the Greek philosopher, suggested the atomic theory of matter. Dr. John Dalton, at the beginning of the nineteenth century, formulated it into the hypothesis which we find to-day. This theory assumed that all matter is composed of indivisible particles called atoms.

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The Italian philosopher, Avogadro, proposed the molecule as the smallest particle of matter which exists in a free state.

The discovery of radium practically establishes the Thomsonian corpuscle theory. We are now taught that small as is an atom, we must look for a particle of matter thousands of times smaller. This particle, so much smaller than the atom, is called an ion. The ion revolves around its fellows at a tremendous rate of speed. These ions of matter are now considered the smallest particles known, being 1,000 to 200,000 times smaller than an atom. Ions compose the atoms and enable them to act chemically.

Science at present holds that matter is made up of masses of ions revolving in their own orbits. That smallest atom of hydrogen is composed of 700 ions. An atom of oxygen contains 11,200 ions. Iron contains 187,000 ions to an atom. An atom of radium contains 120,000. In radium, these ions rotate so swiftly that a violet light is given off. All space is traversed by unknown radiations, and these are arrested in their passage through radioactive substances and transformed into radioactive energy. Radioactive is a recently coined word, but no treatise on physics can be written to-day without it.

Matter, such as barium, uranium, zinc, aluminum, gives out obscure undulations. Radioactive matter gives off these undulations in straight lines in every direction. When matter is in a state allowing it to be active by means of a wave motion, it gives off these undulations. Since the corpuscles that flow between the atoms of matter are negative, they may be drawn out of this straight path by the action of magnetism. This confirms what Maxwell claimed almost half a century ago, that the wave motion of the universe is electromagnetic. Whenever there are 34,000 of these electromagnetic undulations within one inch of space, we see light. If 61,000, we see a violet light. In the spectrum the length of each oscillation is by itself and can be measured.

These waves form a fundamental fact in the study of science to-day. At the very beginning of the seventeenth century, Kepler placed a prism in a ray of sunlight and produced a solar spectrum. About 100 years later, Newton placed a prism in a ray of sunlight admitted into a dark room, thus gaining a much clearer line. At the beginning of the nineteenth century, Wollaston admitted, like Newton, a ray of light into a dark room, but through a very narrow slit, and placing a prism in it, obtained the dark lines in the spectrum. Fraunhofer, a few years later, did what Wollaston had done, but looked at the spectrum with a small telescope. This gave us a spectrum analysis; and spectrum analysis has been one of the greatest studies of the human intellect from that day to this. The discovery of such elements as radium we owe to spectrum analysis.

Three centuries of study and research have discovered only two things apart from mind, in this universe, namely, matter and energy. Since the recent discoveries of the former, no one will venture to say that we have reached the ultimate analysis. Of the latter, energy, recent discoveries are apt to make us feel that our whole conception of work, force, energy, will have to undergo some radical revision. At least, that we are in the infancy of knowledge regarding what we call energy, and to-day a definition is wanted for the question: What is energy?

In 1896, Becquerel discovered remarkable radiation from a sample of uranium. He found that any preparation of uranium emitted continuous radiations. These radiations, he discovered, were similar to the *x*-ray and capable of acting on a photographic plate chemically. The name, "Becquerel rays," has been given to these radiations. Following up the investigation of these Becquerel rays in uranium, M. Curie and Madame Curie discovered from samples of uraninite, that the radiations from it were more powerful than any uranium with which they had experimented. They found this uraninite or pitchblende, as it is commonly called, to have four times the radioactivity of metallic uranium. From this M. Curie came to the conclusion that this radioactivity was due to some new element in the pitchblende. A series of experiments ended in the discovery of a new radioactive substance. This was in 1898. Further experiments succeeded a year later, in 1899, in finding radium.

Radium belongs to the alkaline group of elements, such as calcium, strontium, barium. It has a specific affinity for barium. Madame Curie gives the atomic weight of radium as 225, while barium is 136.4. Radium is obtainable from pitchblende, which is found in Saxony, Bohemia, Cornwall in England, and in Colorado. Uraninite or pitchblende is a heavy, black, pitchy-looking substance. It is composed of two oxids of uranium, with a number of other elements in small amounts. This pitchblende is the source of uranium, but in extracting the latter a residue of rare substances has always been left unused. Uranium compounds have been used to stain glass and porcelain, also to make dye-stuffs, and is of use in photography. M. Becquerel found that uranium exposed to the sun's rays apparently absorbed them. Further experiments, however, showed that pitchblende decomposed the silver salt on a photographic plate. This produced a stir in the chemical world, and it was soon evident that pitchblende contained some substance which could produce photographic images in the dark. This much of the honor in discovering radium belongs to M. Becquerel, the noted French chemist. At this juncture, M. Curie, the physicist, and his wife, began the search for this new element, which Curie was satisfied this uranium ore contained.

Madame Curie was the more enthusiastic in this search, and it is said that it was she who induced her husband to join in the search, which finally resulted in the discovery of polonium, then of radium. They attempted by various experiments to separate this new element or substance in pitchblende, and found not one but two substances. The first one found, Madame Curie named polonium, after her native land, for Madame Curie was born in Poland, and it was as a student in Paris that she met her husband-to-be. The second new substance, they named radium, from radius, a ray, on account of its remarkable radiations. The complex chemical methods by which this substance was separated belongs to a society of chemists, not of physicians. The object now is to find ores which may contain traces of radium. It may be that in the mines of Colorado this element may be found, and to-day it is of far more value than either gold or diamonds.

Just here it is interesting to note in passing that the discovery of radium, like all great scientific discoveries, was found along a well-paved way—something like the discovery of the planet Neptune. Recalling our lessons in astronomy, we remember that Neptune was found because, after the discovery of Uranus, astronomers felt that the erratic course of that planet could only be accounted for by the action of another body acting on it. Following out this line of reasoning led those who nightly watched the heavens through powerful telescopes to search for a new star which was exerting its influence on Uranus, and after a diligent search of space, Neptune was located, the planet which was known to exist before it was found.

The peculiarities of uraninite led M. Curie to the belief that it contained some yet undiscovered mineral. The study of physics and chemistry by scholars during the past ten years ending in the discovery of the *x*-ray, the Crookes tube, the ultraviolet ray, the discovery of Becquerel rays in pitchblende, led by a natural process of evolution to the finding of radium.

To Madame Curie, the wife of the noted physicist, belongs the honor of separating radium from its ore. And while her husband shares with her the honor of the discovery, and she herself has been known to the scientific world as the wife of Professor Curie of Paris, M. Curie now stands in danger of being known to the readers of popular magazines as the husband of Madame Curie. The separation of radium from pitchblende marks the greatest contribution to any science made by womankind. Madam Curie has since been given the degree of Ph.D. by the College of Science in Paris as a recognition for her work along these lines.

### PROPERTIES OF RADIUM.

As yet radium has only been obtained in the form of a salt. Many forms of glass are turned violet by its action, but it is supposed that this is due to some chemical action on the iron and manganese used in making glass. It has been kept in rock crystal for thirty days without producing any changes in the crystal. One of the most remarkable properties of radium is that it maintains a temperature of 2 to 5 F. above the surrounding atmosphere.

Radium action will pass through four or five inches of oak with the greatest ease. The process of measuring radium energy is too elaborate to explain in a paper of this length. It is common, however, to speak of radium as having an activity of 100,000 or 200,000. This means that taking metallic uranium as a unit of measure for radioactivity, radium has a certain activity equivalent to 1,000, or 100,000 times greater than that of uranium, as the case may be. Radium has been used to distinguish a pure diamond from stones that resemble it by its radioactive effect on the diamond, not producing the same result in the spurious stone. Radium decomposes the silver salt on a photographic plate. The rays from radium act like the *x*-ray in penetrating opaque substances. One grain of radium will melt a grain of ice every hour. In other words, it will melt its own weight of ice per hour. This production of heat will go on constantly without any apparent source, and at the end of months, the radium will be as powerful as ever. Long months of activity show no change in the grain of radium. Its weight remains the same; there is no chemical, microscopic or spectroscopic change. It is impossible for us to believe that this minute mass of matter can give off heat for so long without in some way having it restored or renewed. The explanation of this phenomenon is yet to be found, but it is possible—and this is only a suggestion—that in some way unknown to us radium has the power of absorbing this from the Thomsonian corpuscles.

### PHYSIOLOGIC EFFECTS.

Becquerel carried a small particle of radium in a glass tube in his vest pocket. It set up a dermatitis, followed in three days by a burn, and from this an ulceration resulted, taking about two months to heal. A tube containing radium attached to the back of a mouse resulted in its death in twenty-four hours. A few milligrams put beneath the skin of a mouse resulted in its death in three hours. Placed over the closed eyelids, a tube of radium gives a sensation of light. Seeds subjected for some time to the radium influence lose their power of germinating.

The most wonderful property of this new substance is its energy, but, as has been said, the source of this energy is unknown. It seems to possess almost the power of perpetual motion. Two hypotheses have been suggested to account for this energy. One is that the atoms of radium evolve and transform into another simple body, although this transformation can not be located during a year's time. This is the hypothesis suggested by Madame Curie. The other is that radium is capable of utilizing some radiations of unknown nature which cross the space. Experimenters find great difficulty in keeping their instruments free from the effects of this radiant energy. Professor Curie says he would not trust himself in a room containing a kilo of pure radium for fear it would burn the skin off his body, destroy his eyesight and probably kill him.

Radium makes all substances brought in contact with it more or less radioactive. There is this difference between radiant energy and the energy of the *x*-ray: Radium induces an activity which persists, while the activity of the *x*-ray ceases on the removal of the rays. Lord Kelvin is quoted as saying that the discovery of the Becquerel rays from radium and other such substances has placed the first question mark against the principle of the conservation of energy, which has hitherto been supposed to be an incontrovertible fact in science.

### RADIUM IN MEDICINE.

Sir Henry Crookes has carried out some experiments which show that radium has marked bactericidal properties. Caspari exposed cultures of the *Micrococcus prodigiosus* to a preparation of radium which destroyed the germs in three hours. Soddy of England has suggested the inhalations of the emanations of radium for consumption. Tracy of New York has very recently carried out some experiments in induced radioactivity He finds a normal salt solution one of the best media for receiving this radioactivity. This property suggests the hope of finding an effective way of using it internally. A spray of the normal salt solution impregnated with radium will leave the mucous membranes of the nose and throat covered with this radioactive matter, which is antiseptic to a marked degree. It may turn out to have a powerful effect in the relief of cancer of the stomach. Surgical dressings may also be sprayed with radioactive salt solution.

It has already been clearly proven that radium rays have a very decided influence in inhibiting the progress of diseased tissue. These emanations of radium seem to offer some advantages over the *x*-ray in the treatment of deep-seated cancer. The *x*-ray has not been a success in this affection. Owing to the penetrating power of the emanations of radium, it will be possible to apply these rays to the seat of the disease. I have found reports of the following cases:

MacIntire of Glasgow reports two cases of lupus—one of the hand, one of the nostril and nose—both of which were healed by the radium ray. MacIntire also reports favorably of its use in rodent ulcer.

Gussenbauer of Vienna reports good results and some cures in twenty cases of cancer treated by him.

Lunder of Berlin claims to have had good results in cases of blindness from the stimulating effect of the radiations on the eye. It may be that this new agent will prove valuable in these hopeless cases of optic nerve atrophy.

Tracy also reports a case of epithelioma improving under the influence of a tube of radium of 300,000 activity containing ten milligrams. The same physician has also tried this tube on a case of optic atrophy in a man 52 years old. Some improvement has taken place, though the patient is still under treatment. Dr. Blandamour, using a tube of radium with an activity of 5,200, reports the cure of lupus.

Dr. Meyer and William J. Hammer improved a large axillary cancer with radium of 300,000 activity. The exposure was one minute daily. While this case was incurable, the cancer grew smaller and less painful under the rays.

Dr. A. H. Smith reports having seen in a European clinic a rodent ulcer perfectly healed after five exposures, though this ulcer had been treated by the *x*-ray without benefit.

The place of this new element as a therapeutic agent has yet to be determined. At present the cost of it and its scarcity prevent it coming into general use. But if it can be found even in limited quantities, it will have this advantage of the *x*-ray: It will require no costly apparatus—merely a test tube. It will be free from expense of wear and tear. It can also be carried anywhere for use.

This is a newly discovered force. It will have powers for evil as well as good. Before long the charlatan will be exploiting its wonderful powers in the daily press at so much per line.

The investigations of this substance have only begun. Every week adds some new report to its wonders. It will not prove to be the panacea for all human ills—enough trial has been made to show this. It will have a specific limited field of action. First reports are sometimes flattering. Further trials must be made. But no new substance has been discovered during the history of the human race around which so much mystery clings as to this new element—radium. The principles of the conservation of energy, and the law of gravitation itself may need some changes in our statements of them, as a result of the properties found to reside in this particle of matter. It occupies almost the same place in physics that a biologic discovery would occupy in biology if it should apparently offer some serious objections to the generally accepted theory of the origin of species.

It is impossible to note in a subject like this, those to whom we are indebted for the work they have done; but acknowledgment is here made to Edgar L. Larkin, author of "Radiant Energy" for use made especially of his chapters on radiant energy and spectrum analysis; also to Prof. Oliver Lodge, Dr. S. G. Tracy, William J. Hammer on "Radium and Radioactive Substances," and John U. Lloyd.

# THE CONFLICTING CLAIMS OF GENERAL EDUCATION AND PROFESSIONAL EDUCATION.*

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For the last fifty years there has been a tendency to increase the length of time devoted to professional training. This tendency has not been confined to medicine or law, or to the so-called learned professions as a group. It is equally conspicuous in the various lines of engineering and technology. It is manifest in those departments of school work which fit the boy for trade or for commerce. In every sphere of human activity modern scientific studies have made their influence felt. In every sphere, therefore, the practitioner who is familiar with the methods and processes of his science—be it physiology or mathematics, physics or economics—has an advantage over his competitor who knows only those rules of practice which can be picked up in the office or the shop.

But there are some respects in which this tendency has been more strongly felt in medicine than in any other calling, for a physician needs to be trained in more kinds of scientific study than almost any other man in the world. He must know something of physics and much of chemistry; he must know something of morphology and much of physiology. Each advance in any of these sciences increases the importance of the preliminary training which is essential to the successful practice of the arts of medicine and of surgery and the length of time which must be devoted thereto. If we add to the time thus consumed in the study of science the time which is involved in learning the practice of those arts—whether in the higher classes of the medical school or in the hospital experience which should follow—the period of technical training becomes so long that it is a burden to all men, and an almost insupportable burden to those who are poor. And if, in addition to this, we urge that the student of medicine should previously have completed a college course of the old type, we seem to postpone indefinitely his chance to become an independent practitioner and to have the comforts of a home and a family of his own.

Under such circumstances there arises an almost inevitable conflict between the claims of general education, as represented by the college, and the claims of technical education, as represented by the medical school, and in less degree also by schools of law, or theology or engineering. This conflict involves so many different issues and deals with matters of so much perplexity that I have felt some hesitation in offering an address on this subject which shall set forth the claims of the college. But from all that I have heard of this body, I believe that the very difficulties of the case will cause its members to welcome a presentation of a side of the argument different from that which is perhaps more habitually brought before their consideration.

As a first step in our analysis of the problem, let us try to get clearly before our minds exactly what we are talking about. What is the *difference* between general education and technical education? What is the distinction between the college and the professional school or group of professional schools? Most people would say that it was a difference in the nature of the studies pursued. Fifty years ago that would have been largely true. To-day it is not true. Fifty years ago the college taught a curriculum of classics and mathematics, with some metaphysics and a little very elementary science and history, which was supposed to give a foundation of general knowledge for all men; while the professional schools, whether of law or medicine or theology, were occupied with teaching the details of practice—to expound a text, to collect a note, or to write a prescription more or less suited to the occasion in hand. To-day things have changed at both ends. The professional schools no longer occupy themselves solely or chiefly with teaching the practice of their several arts, but lay at least equal stress on the training in the sciences which are at the foundation of those arts. The colleges no longer compel their men to go through a certain curriculum; but they offer a choice of courses suitable to the tastes and abilities of different individuals, from which each can choose that which best meets his wants. Within the limits of a college course the man who would be an engineer can gain an excellent knowledge of mechanics; he who would become a lawyer can learn the fundamental elements of legal theory; while he whose tastes lead him to the study of medicine can master not only the principles but the practice of chemistry, and can familiarize himself with anatomy and physiology and physics, and all those various sciences which form the foundation of successful medical study.

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* Address before the Medical Society of the State of New York, at Albany, Jan. 26, 1904.

What, then, is the difference between a college and a group of professional schools? What, then, determines whether we should advise the student to obtain these acquirements in the one institution or in the other?

The difference, I take it, is not in the studies themselves, but in the surroundings under which they are pursued. The distinction is not in the things taught, but in the ethical atmosphere in which they are learned. The college student pursues his investigations amid a set of associations which bring him into contact with non-professional life on as many sides as possible. The student in the professional school, on the other hand, is in an atmosphere which reduces these outside influences to a minimum and encourages him to narrow his efforts on the work immediately in hand. The college course gives a man breadth of sympathy; but with all except the best men, this breadth is accompanied by a sacrifice of intensity of application. The professional course secures the intensity, but with a corresponding danger of sacrifice of breadth. Which of these alternatives shall we choose? Which of these ends shall we pursue to the comparative disregard of the other?

The tendency of late years has been to choose the second alternative—to regard intensity of application as the vitally important thing to be secured, and to look with distrust, if not with absolute dislike, on scientific requirements which have been obtained in the broader but less exacting atmosphere of collegiate study. Indeed, this attitude has in some instances gone beyond mere distrust or dislike. A man who has acquired his chemistry or his anatomy outside of the medical school is liable to a summary rejection of his claim that this knowledge has in any wise advanced him toward the practice of his profession. Speaking broadly, a student's class rating in our medical schools depends not on his amount of knowledge, but on the time that he has spent in some medical school in acquiring that knowledge—the duration of the period during which he has breathed the professional atmosphere. We do not go so far as the legal profession does in England, where admission to the bar is based on the number of dinners that a man has eaten at a certain place; but the difference is one of degree rather than of kind.

Now it is easy to see the reasons which have led to the adoption of this general policy. We want to have our professional men trained in habits of intense application. This will save their time, will make their work more efficient, and will fit them for the practice of their profession more speedily than would be possible in any other way. What I wish to point out is that this gain is attended with certain serious dangers of loss to the student himself, to the cause of scientific progress, and to the influence of the medical profession as a whole; and that any consideration of the subject which looks only at the gain and fails to notice the loss is an imperfect and somewhat dangerous one.

The first of these dangers is that of commercialism. To this danger the student who does all his scientific study in an exclusively professional atmosphere is often very seriously exposed. A professional school is filled with men who are anxious to make a living, and who look on their scientific study as a means of enabling them to make a living better than they could without it. In fact, the special intensity of their effort in the early years of professional study is largely due to this commercial motive. There are some men to whom this will do no particular harm. There are others to whom it does very great harm indeed. With such men science, instead of being regarded in her proper light, as an agent of service to society, becomes a mere handmaiden of business. A man who looks at medicine in this way will probably make more money than if he looked at it in any other way; but I am sure that the members of this audience would regard this monetary standard as a very ignoble measure of the aims of the medical profession, and would deprecate any change in the system of education which would give increased prominence to this element of success in the mind of the young man of twenty who is beginning his scientific studies and forming his scientific ideals.

The evil effect of such a perversion of standards does not stop short with the individual student. It is bound to show itself in the methods of the profession as a whole. It will result in an undue exaltation of those elements of study and practice which form the basis for triumphs of technical skill. It is, perhaps, presumptuous for a layman to form a judgment on matters like this; and yet I can not forbear saying that the temper of many of the students and of some of the instructors in our medical schools is to-day rather unfavorable to the study of physiology. Anatomy, which is in many ways an exact science already highly developed, they pursue to the utmost, and make it a basis of successful surgery. Certain parts of pathology, in like manner, are made a basis of successful medical practice; but general physiology, by comparison, at least, is neglected. In such schools —and there are many of them—the students are led to use the results of the past to cure the individuals who are afflicted with certain definite diseases; but they are not in corresponding degree led to make scientific progress in those fields which to-day are difficult and doubtful, and give no assurance of commercial return to the investigator, but whose very doubt and difficulty make investigation more necessary and give greatest possibility of service to future generations.

And, apart from its direct effect on the physician himself, this separation of the scientific studies of the medical profession from those of other men has, I think, an indirect effect adverse to the political and moral influence of that profession in the community as a whole. It tends in some degree to make the physicians a guild or trades union, apart from the rest of society. The old-fashioned country practitioner, who had learned nearly all his medicine from contact with his fellow-men, was extremely defective in his scientific training; but he was a power in the community, and knew how to influence the conduct and life of that community. His successor to-day knows more of science, but he does not always know as well how to make that scientific knowledge a stimulus to those about him.

We can, perhaps, understand the real nature of the change better if we look outside of the medical profession and see how a similar change has taken place in the aims of the lawyer in the progress of the law and in the influence of the legal profession in the community. The lawyers of to-day are far better trained in the theory of their profession than was the case a century or a half century ago. They make fewer mistakes. They know more accurately how to adapt means to ends. But there has been an increased narrowing of the standards of success, which gives us more men with large incomes, but fewer Lincolns and Websters and Calhouns. There is an increased ability to take advantage of technical details in advising a client to avoid a lawsuit, but a diminished readiness to adapt the law to new conditions, commercial and social, in the way that the English judges of 1700 or the American judges of 1800 were ready to adapt it. There is, in short, a separation of interests between the legal profession and the community in which the lawyer lives, which stands in the way of the rendering of that public service which the profession should be competent to perform.

Is there any remedy for all this? I believe that there is, and that it lies in the direction of encouraging men to do the preliminary work of preparation for their several callings while they are yet in the broader atmosphere of the college, rather than in the narrower atmosphere of the professional schools. Some sacrifice of intensity of application this doubtless will involve; but I believe that any loss from this cause will be more than compensated by the increased gain in sympathy and enjoyment, in the spirit of progress and in the power of using such professional work for the benefit of a man's fellows, which will accrue from this change. I would not abate one jot of the strictness of our requirement of scientific knowledge as a preliminary in professional study; but I would welcome that knowledge, no matter where it was acquired. I would hold that if a man really had the necessary training in chemistry or anatomy, he would make a better physician instead of a worse one if he had obtained it outside of the limits of the professional school. Instead of discouraging men from beginning their scientific studies before they enter a professional school—which is the net result of our present somewhat exclusive policy—I would stimulate such study in the colleges, giving fair recognition to its results. I would encourage a man to begin his scientific specialization at as early a period as possible and to defer his ethical specialization until as late a period as possible. The sooner a man's brain begins to turn to his lifework the better; but the later a man's horizon tends to be narrowed to the sphere of his lifework the better also.

I believe, therefore, that the true policy is not a shortening of the college course and an attempt to make it a time of intellectual eclecticism, if not of intellectual dissipation; but an inclusion within that college course of all the scientific studies which it can be made to contain, and the fullest recognition by our various professions and professional schools of the results of such study when obtained in the college atmosphere. I believe that in this way we can best solve the problem of training men for the duties of their several professions, without untraining them for the wider duties of scientific progress and of American citizenship. I believe that in this age, more than in all others, we need to emphasize the importance of those conditions in education which make for catholicity of sympathy, for wide acquaintance with all kinds of men, and for broad range of vision, both present and future. I plead not for any lowering of professional standards or for any lessening of intensity of requirements; but for the recognition of the great fact that our engineers and our lawyers, our ministers and our physicians, must be men first and technologists afterwards—and that any true system of professional education should find a place for helping men to broaden their mental and moral horizon, even while they are learning to concentrate their vision on those special lines of human activity with whose investigation they are charged.

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**The Cultivation of Medicinal Plants.**—The *American Journal of Pharmacy* for December contains an article by Dr. Kraemer, the editor, on "The Conservation and Cultivation of Medicinal Plants," in which he predicts an early extermination of the principal medicinal plants of this country unless measures are taken to protect and to cultivate them. Certain well-known plants, as spigelia, serpentaria and senega, are already becoming scarce, whereas in Linne's time they were found in abundance in Maryland and other Atlantic states. It is well known that some plants have been improved by cultivation, and it is reasonably to be supposed that all can be when the peculiar requirements of each have been ascertained. Kraemer urges a study of these plants in their natural surroundings that they may be successfully cultivated and conserved. Many of the medicinal plants now in use are being cultivated in this country. It is stated that 40,000,000 pounds of peppermint are produced annually near Kalamazoo, Mich. Castor beans, from which castor oil is obtained, are raised in the west and middle states. Valerian is produced in Vermont. *Digitalis purpurea*, *Atropa belladonna*, *Sanguinaria canadensis*, *Cimicifuga racemosa* and many equally valuable plants have been raised experimentally in this country and, in Kraemer's opinion, could be grown successfully with the proper cultivation. A number of native medicinal plants which still grow here in abundance are named. The more common ones mentioned are couch grass (*Agropyrum repens*), marshmallow (*Althæa officinalis*), stramonium leaf and seed (*Datura stramonium*), grindelia (*Grindelia robusta*), hydrastis (*Hydrastis canadensis*), mandrake (*Podophyllum pelatum*), and American hellebore (*Veratrum viride*). Kraemer urges the further cultivation of certain plants which have been introduced into this country and grown here to some extent, such as senna (*Cassia acutifolia*), colocynth (*Citrellus colocynthis*), gentian (*Gentiana lutea*), poppy (*Papavera somniferum*), etc. He believes that three-fourths of all medicinal plants are grown either wild or in cultivation in this country, and that fully one-half of the remaining fourth could be successfully raised here. Americans must realize the necessity of protecting their forests and plants, and must consider their care and preservation a duty both to themselves and to future generations.

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## THE NEED OF A UNIFORM STANDARD FOR DEPARTMENTS OF HEALTH.

A list of questions was sent recently to the departments of health of various representative American cities. These inquiries related to the reporting and isolation of contagious diseases and to subsequent disinfection. The answers received from sixteen cities reveal a quite surprising divergence of view as to what ailments are included in the class of contagious or infectious diseases and as to what are considered adequate measures for protecting the community. In what follows it will be understood that no exact statements are intended as to the procedure of all American cities. The instances mentioned are given simply to show the wide divergence on essential points found among certain typical cities. The answers received from these cities were necessarily brief, and access to the various sanitary codes was practicable in only a few cases, so that in some instances only general statements concerning the methods can be made. In others the details can be given more fully.

All the cities answering require the reporting of smallpox, diphtheria and scarlet fever, but there uniformity ceases. Baltimore, Philadelphia, St. Louis, Providence and Rochester are not content with the reporting of diphtheria alone, but very properly insist on the reporting of all cases of membranous croup. Inasmuch as the majority of these cases are due to infection by the Klebs-Loeffler bacillus, it is generally recognized that the two diseases are practically identical, yet so long as the reporting of membranous croup is not required, it affords an easy way of relieving the family from the annoyance of placarding and isolation. Baltimore, Chicago and Philadelphia are the only cities in the list requiring specifically the reporting of varioloid, yet there is the same reason for reporting varioloid as for reporting membranous croup. Philadelphia, indeed, makes a special point of reporting chicken-pox, and claims that several cases of smallpox have been thus discovered. Other cities which require chicken-pox to be reported are Baltimore, St. Louis, San Francisco, Salt Lake City and Rochester. Measles and whooping cough are communicable diseases, yet among the cities answering only Baltimore, Salt Lake City and St. Louis mention both, while San Francisco and Providence mention measles only. Cholera and typhoid fever are diseases which, though only indirectly communicable, are peculiarly amenable to control by sanitary measures, and it would, therefore, seem highly advisable that these diseases should be included in the list for compulsory reporting. It is easy to understand why cholera is omitted, as it is so long since there has been an alarming outbreak, but typhoid is endemic in many of our large cities, and there are few diseases which departments of health, wherever they are free to exercise their legitimate functions, could so successfully combat. Chicago, Baltimore, San Francisco, Providence, Salt Lake City, Philadelphia, St. Louis and Rochester specifically mention that the reporting of typhoid is required.

It is easy to see why yellow fever should be listed as it is in seaport towns and not in northern inland cities, but it is not easy to understand the varying attitude toward other diseases, notably epidemic cerebrospinal meningitis, erysipelas and puerperal fever. Philadelphia, Salt Lake City and St. Louis require the first disease to be reported, and St. Louis and Salt Lake City go so far as to insist on placarding, although St. Louis does not placard measles or chicken-pox. St. Louis and Rochester seem to be the only ones which require the reporting of erysipelas and puerperal fever. Philadelphia stands alone in regarding relapsing fever as a dangerous, communicable disease which must be reported. It is singular, in view of the fact that cases of leprosy occur every now and then throughout the country, that Philadelphia is apparently the only city requiring it to be reported. When we remember the recent conflict between the Federal and local authorities as to the existence of bubonic plague along the Pacific coast, it is noteworthy that San Francisco does not mention this disease among those which must be reported to the health department, although Salt Lake City places it on the list.

There is compulsory reporting of tuberculosis in New York, Boston, San Francisco, Baltimore, Rochester, Providence, Atlanta and Louisville. In the reporting of tuberculosis, departments of health often contend with opposition on the part of the medical profession, and the physician in turn must contend with strong opposition on the part of his patients and their families.

The requirements of the different departments as to placarding and isolation vary widely. In the case of Baltimore, placarding and absolute isolation are apparently required for all the severer infectious diseases and also for whooping cough, mumps, typhoid fever, consumption and chicken-pox. Des Moines, New Haven and Louisville assert that they enforce placarding and complete isolation for "all contagious diseases." Chicago's sanitary code requires placarding for smallpox, scarlet fever or any "contagious, infectious, pestilential or epidemic disease." The code of Salt Lake City is extremely strict, and the printed rules require not only the placarding for such a disease as epidemic cerebrospinal meningitis, but make it unlawful for any person in the house with such a case to leave the house without a written permit from the board of health. Of course, such over-strict requirements are liable to defeat themselves. On the other hand, certain cities require only the placarding of smallpox, diphtheria and scarlet fever. Such are Boston, Detroit, Minneapolis, Atlanta, St. Paul and Providence. Rochester adds measles.

The degree of isolation apparently required varies widely. As instances may be given the Salt Lake City rule quoted above, which applies to all contagious diseases, and the following answer given by the Providence board, applying to all reportable diseases: "Not so strict as formerly. Children in family kept out of school and advised to stay on the premises. Other children in house usually allowed to go to school. Wage earners usually allowed to go to work." We suspect that whatever the requirements by official rules may be, the Rochester answer comes near representing the general practice. It is as follows: "We do not require isolation from other members of the family, because we believe it can not be enforced in practice."

There is room for difference of opinion regarding the value of placarding in the prevention of the spread of communicable diseases, but if it is, as seems to be the case, generally accepted as a valuable procedure, then it would certainly seem possible in the present state of medical science to arrive at a more uniform standard of application than is shown by these answers. In practice, some towns having the most stringent rules leave much to the discretion of officers. Philadelphia and Chicago, for instance, leave placarding to the discretion of inspectors and attending physicians, although the Chicago code especially is most sweeping and mandatory on this point.

As a usual thing, either sulphur or formaldehyd, or both, are stated to be the disinfecting agents used, but even here a striking diversity of opinion is shown. One reply states that "the work of the department in disinfection with formaldehyd gas has been exceedingly successful." Another reply says: "All forms of formaldehyd disinfection are a delusion and a snare."

There are, of course, still many obscure points in the etiology of contagious diseases, but the mode of transmission of most of these diseases is fairly well understood. On the other hand, as a matter of administration, it is true that many non-medical considerations affect the degree to which the sanitary code is enforced in each city. If the code gives the department of health strict rules and large discretionary powers, the enforcement is necessarily difficult and obstructed by considerations outside of those purely medical, while, if the rules are very lax, the enforcement will hardly be vigorous.

We would respectfully suggest that no subject could more fitly engage the attention of the Section on Hygiene and Sanitary Science of the American Medical Association than this of securing a scientific and practicable standard for the control of communicable diseases by municipal departments of health.

## THE INFLUENCE OF SODIUM CHLORID AND DECHLORIDATION ON CARDIAC AND OTHER DROPSIES.

The influence of sodium chlorid on the dropsies attending various forms of nephritis was brought to the attention of the medical world in a paper by F. Widal and A. Javal,[1] which has been noticed[2] in these columns. Since then the study of the fate of sodium chlorid in the body and the influence of that salt on dropsies and edemas has been diligently pursued by the French clinicians. According to the investigations of R. Marie,[3] it appears that when sodium chlorid is not eliminated it does not remain in the blood, but passes into the interstitial circulation, where it reaches a fixed percentage, usually about six grams to the thousand. When the retention is increased, the strength of the plasma does not change, but the tissues become more hydrated, and when the retention becomes very marked, the interstitial fluid becomes greatly increased and edema results. All the retained chlorid is not contained in the interstitial plasma, however, and Marie believes there are two stages in the retention: (1) that of fixed chlorid, in which the chlorids are contained in the tissues or organs, and (2) that of free or circulating chlorid, in which the chlorids are in the interstitial circulation. The variations of the latter chlorid are indicated by variations in the weight of the patient. It would seem, then, that depriving the edematous patient of chlorids would result in a diminution of his edema. The work of Widal and Javal seems to confirm this theory, insofar as the edema of nephritis is concerned. It has also been shown that dechloridation has an influence on the amount of albumin in the urine in these cases. Hallion and Carrion[4] suggest that the influence of a chlorid-free diet on albuminuria may be accounted for (1) by a modification of the osmotic tension of the glomerular secretion, as advanced by Castaigne and Rathery,[5] and (2) by a modification of the albumin of the blood, due to the proportion of chlorids which the organism contains. These authors object to the former theory and approve of the latter.

While dechloridation has been found of decided benefit in cases of edema complicating nephritis, no such striking results have been observed in cases of edema complicating cardiac disease. Widal, Froin and Digne[6] have studied the effects of dechloridation and of the administration of chlorids in nine patients suffering from cardiac affections, with more or less pronounced edema of the extremities. They have found that in three of these patients, in spite of increasing alimentary chloridation, the edema and the body weight diminished progressively. On the other hand, three other patients increased in weight when given ten grams of sodium chlorid daily with their diet. Again, in four patients dechloridation had no influence on the weight, or at most produced slight reductions only. In spite of these results, the authors conclude that a certain advantage is to be gained in cardiacs by prescribing a diet composed of meat, potatoes, butter and bread, all without salt, because such diet seems to prevent the increase of an existing edema. Vaquez and Laubry,[6] on the other hand, have satisfied themselves that a diet rich in sodium chlorid is dangerous for patients with cardiac disease because it renders them more liable to general and local disorders, such as dyspnea, insomnia, vomiting and albuminuria. Bergé[7] reports a case of arteriosclerotic nephritis with aortic insufficiency, which is somewhat illustrative of the last statement. Bergé had given his patient subcutaneous injections of normal saline solution once a week for eighteen weeks without harmful effect. Some months later a second series of injections was begun, and after the third administration of 200 c.c., the patient, developed an attack of pulmonary edema. Vaquez and Laubry believe that dechloridation of the diet is useless when a cardiac lesion is compensated; but when there is transitory asystole this form of diet is a useful transition between an absolute milk diet and a normal diet.

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[1] Presse Méd. de Paris, No. 80, 1903.
[2] The Journal A. M. A., Oct. 31, 1903, p. 1092.
[3] Comptes Rendus de la Soc. de Biol., Nov. 20, 1903.
[4] Ibid., Nov. 20, 1903.
[5] Sem. Méd., Sept. 23, 1903.
[6] Ibid., Nov. 18, and Bull. et. Mem. Soc. Méd. des Hôp., Nov. 19, 1903.

Chauffard[6] put a patient with atrophic cirrhosis of the liver, ascites and edema of the lower extremities, scrotum and lumbar region on a dechlorized diet. While the ascites was not benefited, the edema disappeared after paracentesis abdominis and did not reappear, although the ascites reaccumulated more rapidly than it had before when ten grams of sodium chlorid were administered daily with the food. Chauffard believes that if the dechloridation of the diet does such a condition no positive good, the administration of large quantities of sodium chlorid may do positive harm.

It would seem from these recorded experiences that a chlorid-free diet may prove of value in the hands of the internist in certain cases of cardiac disease complicated with dropsy; if not as a curative measure, at least as a prophylactic method directed against some of the more serious terminal accidents of this disease.

## LYMPHOTOXEMIA, THE STATUS LYMPHATICUS AND ALLIED DISORDERS.

Observations of a relationship between spontaneous sudden death and enlargement of the thymus, extended by Grawitz, Paltauf and others to enlargement of other lymphoid tissues as well, have demonstrated a condition which, although still shrouded in obscurity, has acquired a distinct name and fairly definite anatomy. Death is so sudden in some instances that the only symptoms observed are associated with cardiac or respiratory failure; in others death is practically instantaneous and observation of symptoms is impossible.

Although chiefly occurring in children with rickets, infantile eclampsia, tetany and the so-called thymic asthma, the anatomic evidences of lymphatism or status lymphaticus have been found in adults in exophthalmic goiter, idiopathic epilepsy, and in cases where sudden death has followed trivial physical stimuli. Numerous observations have concerned death from anesthesia in both adults and children and from the use of all forms of general anesthetics. That death in these cases may result from or be favored by the enlarged thymus, seems likely from a few observations: The trachea has been found with its lumen all but obliterated; in another instance it displayed a marked "saber-sheath" malformation; in a report by Kohn, the aorta was found enveloped by the overgrown thymus and the heart both hypertrophied and dilated; in some instances the fatal ending has been attributed to pressure on the vagi. The anatomic position of the thymus has naturally suggested its causative connection with dyspnea and laryngeal spasms, seen especially in infants, but the failure to find any notable constant hyperplasia has gradually led to the abandonment of this view.

The recent suggestion by Blumer[1] that death in cases of lymphatism is due to a cytotoxin, possesses many features of interest. He was led to this assumption by finding in the 9 cases studied changes very similar to those observed in animals injected with alien serum containing—in the nomenclature of the Ehrlich theory of immunity—amboceptors specific for various lymphoid tissues. If the increased production of lymphoid tissue in the pharyngeal, thoracic and abdominal lymph glands and in the intestine, spleen and thymus, takes place from the action of a toxin, and is, therefore, in a measure an adaptive process and in accord with Weigert's law of degeneration and proliferation, the sudden and hitherto unexplained spontaneous death in these cases may be due to changes caused elsewhere in other tissues by the toxin.

There is every reason to believe that molecular and chemical alterations may occur in disease for which we are at present unable to demonstrate corresponding morphologic changes. On the other hand, improved technic and an increasing thoroughness are constantly revealing structural modifications in diseases of the so-called "functional" type. That these cases of lymphatism will show on further research variations of structure explaining the abrupt and unexpected death, may be confidently expected. Some hint of this is afforded by the recent description by Peters[2] of the changes in tetany, a disease which may be but a symptom-complex of lymphatism or lymphotoxemia. He found, in 8 cases, an external hemorrhagic pachymeningitis of the spinal cord with inflammatory changes in the spinal ganglia and both motor and sensory roots. Details of the condition of the lymphoid organs and tissues in these cases of tetany are not described, and in the contribution by Blumer there is no mention of examination of the nervous system. During tetany, laryngeal spasms occur, and several of the infants examined by Peters exhibited such symptoms. Death occurred in one of the 8 suddenly during such an attack. The words of Ohlmacher, whose investigations established the occurrence of status lymphaticus in idiopathic grand mal, are worthy of repetition: "The tendency to bring to a common basis whose essential expression is the lymphatic constitution such obscure neuroses as tetany, eclampsia of infancy, laryngeal spasm and mors thymicum, can not be ignored." With the demonstration of changes characteristic of such diverse clinical phenomena, perhaps the necessity to distinguish some of them as separate diseases may disappear. The cytotoxins instrumental in causing hyperplasia of the lymphoid tissues in some forms of the status lymphaticus may be different from those operative in others; they may be bacteriogenic in one and of somatic origin in another. Estimation of the number and variety of the leucocytes in the circulating blood in diseases with which the lymphatic constitution is associated, is called for, and also of the lyt.c properties of the sera of these diseases for human leucocytes and lymphoid tissues. Indeed, the problems for research in these little known affections are, to a large degree, present also in the more familiar and kindred diseases—splenic anemia, leukemia (especially the acute form), Hodgkins' disease and multiple myelomas, since these also may be caused by the actions of toxins. Not the least needed is orderly and skillful examinations of the nervous system to determine if possible some explanation of their high mortality.

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[7] Bull. et Mem. Soc. Méd. des Hôp., Nov. 19, 1903.

[1] Bull. of the Johns Hop. Hosp., 1903, xiv, 270.

[2] Deut. Arch. f. klin. Med., 1903, lxxvii, 60.

## AN OBJECTION TO SMOKELESS POWDER.

The object of many of the devices of warfare is to inflict the greatest damage to the enemy at the least cost to the other side, and smokeless powder is used to prevent concealing some portions of an opposing body. Attention has recently been called to an interesting aspect of the use of smokeless powder in naval warfare. In a target practice on a warship the wind blew the smoke and gases following the discharge of the guns back into the turret, incapacitating some of the gunners. The symptoms were convulsions, labored respiration, small and irregular pulse, feeble and tremulous heart action, headache, loss of consciousness, etc., and were ascribed in a large measure to the nitric and nitrous products created by the combustion. It, therefore, becomes in part a problem of ventilation. The ship crews must be protected from these fumes by proper devices. Torel,[1] writing on this subject, calls attention to the fact that under certain circumstances smokeless powder may be more of injury than of benefit to the ship crew using it.

## THE VALUE OF FRESH AIR.

If the present popular crusade against tuberculosis should fail in its purpose and "the great white plague" still continue to be more or less an important factor in the mortality, which we can not reduce beyond a certain definite point, it will have nevertheless worked out an immense amount of good in the mere fact that it has educated the people to the value of fresh air. In our northern climate, the changeable seasons and the necessity of guarding against extremes of temperature make us too apt to neglect ventilation both in public and private buildings. In the colder season Nature helps us to some extent against our will, as natural ventilation is then more active through entrances that can not be altogether obliterated by artificial means. Our buildings that are heated by grates, furnaces or stoves, when properly constructed and with air inlets suitably arranged, partly meet the conditions in supplying fresh oxygen to the inmates, though they are far short of sanatorium ideals. In our crowded city flats and tenements, however, the evil of vitiated atmosphere with its germs and other impurities forms one of the most serious of the disease-breeding factors in our midst. The tuberculosis crusade shows us that open windows even in our northern climate are not unendurable by invalids, to say nothing of healthy people, and that by coming back to more natural conditions we can escape many of the evils that have grown up about us. In the course of civilization man has gotten very far away from Nature—part of this of necessity and part from luxurious indulgence and the neglect of proper elements of health. We would be a hardier race if we coddled ourselves less, and the worst form of coddling from which we suffer is in our overheated and ill-ventilated apartments. Steam and hot-water heated flats, with storm windows and rubber-stripped doorways, are direct possibilities of lung and other infection. The awakening of the people to this fact, as well as to the dangers of crowded assembly rooms, street cars and other conveyances where fresh air is a dreaded and carefully avoided intruder, is an excellent thing.

## SUPRARENAL GRAFTING.

The hopelessness of Addison's disease makes of great interest any procedure that may be suggested for its relief. Some years ago Oesterreich, Professor Virchow's assistant at Berlin, reported a case in which the recognition of characteristic pigmentation, with lowered blood pressure, led to a suspicion of incipient Addison's disease, and operation with the removal of some portions of the suprarenals undergoing tuberculous degeneration was followed by relief. The success in this case, however, must be looked on as a happy accident rather than as a precedent to be followed. The difficulties in making a positive diagnosis of incipient Addison's disease are so great and the operation so grave that, except under the most favorable circumstances, a surgeon would hesitate to operate. A suggestion was made at the last meeting of the Society for Experimental Biology and Medicine,[1] which calls attention to the possibility of relief at more advanced stages of the disease when diagnosis has become more certain. Dr. Meltzer presented a case in which one suprarenal was removed and grafted into an incision in the corresponding kidney. When the other suprarenal was removed entirely, eighty-six days later, the animal survived and was apparently normal for twenty-one days, after which it was killed for examination. It is not surprising to find that the suprarenal may continue to live in the midst of kidney tissue, as portions of suprarenals are not infrequently found in the cortex of the kidney and are sometimes the source of malignant tumors—the so-called *hypernephroma*, which is usually fatal. It would seem, therefore, that this suggestive investigation might very well prove the basis for a surgical therapeutic measure that would at least prolong the life of some of our hopeless cases of Addison's disease. In animals, at least, the medullar portion of the grafted suprarenal seems to persist very well and to obtain a good blood supply.

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[1] Archives de Médicine Navale, abstracted in the Jour. of the Assn. of Military Surgeons, September, 1903.

[1] Science, Jan. 15, and Am. Med., Jan. 17, 1904.

## THE REMOTE EFFECTS OF HEAD INJURIES.

It has long been recognized that injuries to the head, generally with but sometimes without fracture, may be responsible for brain abscesses appearing weeks, months or even years after the injury. The rôle of such injuries in the production of neuroses and psychoses has been universally recognized and in some quarters greatly exaggerated. The physician who is not in touch with modern psychiatry is often too willing to assure the relatives of the insane patient of the absence of inherited predisposition and to place the blame on some injury that no one had thought of for years. It is still unsettled whether injuries to the head can cause brain tumors, but a history of trauma is obtained in a small percentage of cases, particularly of sarcoma and glioma. Another post-traumatic affection has created considerable controversy for some years. In 1891 Bollinger first called attention to the occurrence of cerebral hemorrhage weeks or months after a head injury. Recently Stadelmann[1] has contributed several convincing cases, and Harbitz[2] of Christiania has reviewed the whole subject in a lucid manner. As an instance of these so-called *"traumatische Spätapoplexien"* one of Stadelmann's cases may be cited. A working man, 29 years old, received a blow in the right parietal region which rendered him momentarily unconscious, but he was able to return to work in a few days. Four weeks later he was suddenly taken with convulsions, commencing in the left arm, and became unconscious. He died six days later, or thirty-four days after the injury. The autopsy revealed clotted blood in the leptomeninx of the right fossa Sylvii, with a small amount of softened brain substance underneath, and a clot the size of a pigeon's egg deep down in the right posterior central convolution; the surrounding brain substance was soft and edematous. There was also a focus of softening containing blood clots in the left frontal lobe. The course of events is supposed to be as follows: Trauma causes capillary hemorrhages, frequently surrounded by minute foci of softening, generally located in the surface of the brain beneath the contused part, but frequently also deep down around the ventricles, or in the portion of the brain diametrically opposite the injured portion. The changes produce a local circulatory disturbance causing edema, and this, together with the accompanying softening, causes a diminution in the pressure normally exerted from without on the vessel wall, and rupture is the result, occurring either spontaneously or from some trivial cause, such as sneezing, laughing, a heavy meal or emotion. Naturally in a given case one must be extremely cautious in deciding a hemorrhage to be of this kind. Stadelmann formulated the following conditions: 1. The patient must formerly have been in good health, not syphilitic, alcoholic, nephritic, or the victim of heart disease or arteriosclerosis. 2. The trauma must have been considerable, but need not necessarily have caused loss of consciousness. 3. The symptoms of the vascular and cerebral changes must be of distinct evolution and come on within a reasonable time. If years have elapsed, it will be practically impossible to establish a connection. The subject is worthy of attention, particularly on account of its obvious medicolegal importance. It is highly desirable that all such cases should come to autopsy, and a careful and critical comparison be made between the clinical and postmortem findings.

## LIFE-INSURANCE REJECTIONS.

A western contemporary[1] has protested with some vehemence against the custom among life insurance companies of exchanging lists of rejected applicants. The editorial refers to the condition as being "simply intolerable and outrageous." With this view the opinion of the *St. Paul Medical Journal*[2] is distinctly at variance. This journal calls attention to the fact that this is a beneficent provision to protect policy holders from deterioration of the average risk. In other words, if such a custom did not exist, it would be far easier than it now is, for persons who have been rejected on good and sufficient reasons, to secure insurance in other companies by skillfully obscuring the defect in family history, personal history, or physical condition, as the case might be, which had been the cause of the rejection elsewhere. Every life-insurance examiner is familiar with the endeavor of rejected applicants to remove the grounds of their disability. It may be, as has been charged, that some insurance companies are satisfied to learn that the applicant has been rejected, and will then give him no further consideration. Reference is made to a man's being put on the "blacklist." Such a one is perhaps unable to secure insurance and yet lives to a ripe old age. MacPhail[3] has recently investigated a large number of rejected candidates, and finds their length of life but little below the average life of accepted applicants. He ascribes this fact to the applicant having been warned of his condition, he amends his habits, improves his hygiene and thereby lengthens his life, and perhaps even overcomes some serious physical defect. These facts are, of course, to be borne in mind by the insurance examiner. The system of exchanging lists of rejected applicants, however, if used as a safeguard and not as a blacklist, is to be commended, protecting, as it does, the policy holder from loss through unwise risks.

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[1] Deutsche med. Wochenschr., Nos. 6 and 7, 1903.

[2] Norsk Magazin for Laegevidenskaben, 1903, p. 663.

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[1] Medical Sentinel, September, 1903.

[2] St. Paul Med. Jour., January, 1904.

[3] The Journal A. M. A., Jan. 9, 1904, p. 107, Canada News.

## Medical News.

### CALIFORNIA.

**New College Opens.**—With appropriate ceremonies the Oakland College of Medicine was formally opened January 8. Dr. Frank L. Adams delivered the address of welcome.

**Sanitarium Burned.**—The Pajaro Valley Sanitarium, Watsonville, was destroyed by fire January 9. The six patients in the institution were removed in safety. The loss is $30,000, partially covered by an insurance of $13,000.

**More Plague.**—Two deaths from plague occurred in San Francisco in January. In Case 111 death occurred on January 10, and the diagnosis was confirmed January 25; in Case 113 the patient died on January 13, and the diagnosis was confirmed on January 22. During 1903, 17 cases occurred, and in 1902, 41 cases.

**Personal.**—Dr. Dennis D. Crowley, Oakland, has been appointed surgeon-general of the state, with the rank of colonel, succeeding Dr. Winslow Anderson.——Dr. Thomas Ross, Sacramento, has been made consulting physician of the Southern Pacific Hospital in that city, and Dr. Andrew M. Henderson has been placed in charge of the hospital.——Dr. Weston O. Smith, Alameda, president of the local health board, has resigned.——Dr. James W. Jesse, Santa Rosa, has been appointed physician and health officer of Sonoma County.——Dr. Henry B. Bessac, Forbestown, has been elected physician of Butte County.

**Wholesale Changes.**—The new San Francisco Board of Health, January 9, by abolishing numerous positions and creating many new ones, thereby effected, it is said, a saving of about $10,000 a year in salaries. The medical changes are as follows: Vacancies declared—Health officer, Dr. Aloysius P. O'Brien; bacteriologist, Dr. Howard Morrow, and city physician, Dr. Joseph G. Morrissey. Positions created—Deputy health officer, Louis Levy; district health officers, Drs. John F. Dillon, Albert S. Adler, and Frank J. Tillman; city physicians, Drs. George P. Purlenky and Tullio A. Rattanzi; chief inspecting physician, Dr. William C. Hassler; inspecting physicians, Drs. G. W. Goodale, Walter Jackson, Cosmos A. Glover and William J. Walsh; bacteriologist, Dr. Frederick G. Canney, and medical chemist, Dr. August C. Bothe. Dr. Denis F. Ragan has been confirmed as health officer, and Dr. George F. Brackett, chief emergency physician.

### IDAHO.

**Hospital at Boise.**—St. Luke's Hospital at Boise is a modern hospital building, erected at a cost of $25,000. It has nearly 40 rooms, and is equipped with modern appliances.

**Albion Has Smallpox.**—Several cases of smallpox have appeared in Albion, one of which is in the dormitory of the state normal school. The town was immediately quarantined.

**Personal.**—Dr. Edward E. Maxey, Boise, secretary of the state medical society, has gone east for post-graduate study.——Dr. Isaac S. Collins, Lewiston, has resigned as physician of Nez Perces County, on account of ill-health, and Dr. John F. Hurlbut has been appointed in his stead.

**Idaho State Medical Society.**—At the annual meeting held in Boise the following officers were elected: Dr. Jesse L. Conant, Genesee, president; Dr. Robert L. Nourse, Hailey, vice-president, and Dr. Edward E. Maxey, Boise, secretary and treasurer. The next meeting will be held in Lewiston.

### ILLINOIS.

**Medicine-Man Fined.**—W. M. Portner, an alleged doctor of medicine, traveling with a medicine company, was fined $100 at Piper City for practicing medicine without a license.

**Smallpox Closes Schools and Churches.**—The town council and school board of Bloomington decided, February 2, to close the schools and churches indefinitely on account of the alarming spread of smallpox.

**A Healthful City.**—Evanston asserts that it is the healthiest city in America. In 1903 only 212 deaths occurred, a death rate of 10 per 1,000. Of the deaths, 28 were due to pneumonia, 26 to heart disease, and 22 to tuberculosis.

**East St. Louisians Must Not Spit.**—The city council of East St. Louis, on January 25, passed an ordinance prohibiting spitting on sidewalks, in public buildings, street cars and railway stations. A penalty varying from one to five dollars is provided for every violation.

**Old Physicians Honored.**—At the annual banquet of the Decatur Medical Society, January 26, Dr. William J. Chenoweth, who has been 50 years in practice, and Dr. Ira N. Barnes, who was graduated 41 years ago, were the guests of honor. Dr. Silas E. McClelland acted as toastmaster.

### Chicago.

**Hospitals Under Ban.**—The building commissioner has notified 13 hospitals that they must receive no new patients until certain specified changes, looking to safety in case of fire, have been made.

**Alexian Brothers' Hospital.**—During 1903 this hospital cared for 3,062 patients; 1,932 were discharged cured, 488 discharged improved, and 91 discharged unimproved. The deaths of the year numbered 333. Of these 126 were in dying condition when brought to the hospital.

**Deaths of the Week.**—During the week ended January 30, 549 deaths were reported, 32 more than for the previous week, and 37 less than for the corresponding week of 1903. Pneumonia led with 121 deaths; consumption caused 57; heart disease, 56; bronchitis, 40, and violence 37.

**Result of a Cold January.**—Notwithstanding that the mean temperature of the month has been five degrees below the normal, the department of health states that the death rate promises to be among the lowest on record. The average January rate since 1893 has been 16.32 per 1,000. For the month just closing it will be about 14. The lowest during the period was 13.69, in January, 1898; the highest, 20.91 in 1893. Last January, although milder than normal, the public health was affected by the coal famine, and the death rate was 16.07 per 1,000.

### IOWA.

**Communicable Diseases.**—During December, diphtheria was reported in 9 localities; scarlet fever in 39; measles in 2; whooping cough and chicken-pox each in one locality, and smallpox in 12 localities.

**Sixty Years in Practice.**—To celebrate his eighty-sixth birthday and the sixtieth anniversary of his entry into practice, Dr. Ben Selman, Bloomfield, entertained the physicians of the city at a turkey dinner, January 17.

**Unlicensed Osteopath Fined.**—It is reported from Taylor County that D. B. Roberts pleaded guilty to the charge of practicing osteopathy at Bedford without proper legal authority, and was fined $300 and costs. He was committed to jail in default of payment.

**Dedication of New Medical Building.**—The new building of the Medical Department of Drake University was dedicated January 29. Dr. D. S. Fairchild, dean, read a paper on "History of the Growth of Drake University College of Medicine and the Changes in the Methods of Medical Education During that Time"; Dr. G. H. Simmons, Chicago, on "Medical Education, Ideal and Practical"; Dr. D. C. Brockman, Ottumwa, Iowa, "Duties of the Medical School to the Profession and to the Public"; Hon. Nathan E. Coffin, Des Moines, "The Relation of the College of Medicine to the City"; and Mr. Hill M. Bell, president of the university, "Relation of the University to the Medical School." The building is a two-story structure with high basement, making it practically a three-story building. It will be used especially for the junior and senior class work; the work of the first two years will be carried on at the university.

### MARYLAND.

### Baltimore.

**Deaths of the Week.**—The deaths last week numbered 235, an annual death-rate of 21.24 per 1,000; consumption and pneumonia leading with 33 and 28 respectively.

**For Tuberculosis Sanitarium.**—Of the $25,000 needed to secure another $25,000 offered by a man of Baltimore for the building of a sanitarium in the Blue Ridge in connection with the Hospital for Consumptives, $14,000 has been raised by the Quarter Club, and from other sources.

**Halliburton Lectures.**—Dr. W. D. Halliburton, F.R.S., professor of physiology at King's College, London, lectured last week before the students of the University of Maryland and before those of Johns Hopkins. The subject of the former lecture was "The Proteids of Muscle and Nerve." He was the guest of Dr. John C. Hemmeter while in Baltimore.

**Tuberculosis Philanthropy.**—During his visit to the Tuberculosis exposition last week Mr. Henry Phipps of New York, well known for his philanthropy in this field, gave to the Johns Hopkins Hospital, through Dr. William Osler, for the purpose of establishing a separate out-patient department at the hospital, $20,000. It is said that he gave one-half this amount to the same institution a year ago. His gifts to the institution in Philadelphia, founded by him and bearing his name, are said to amount to several hundred thousands. In connection with the work at the Johns Hopkins Hospital, it may be mentioned that it has been carried on for several years through the generosity of two ladies of Baltimore. Cases have been visited in their homes and special directions given to the families as to the management of the disease. A library of tuberculosis has been started.

## MASSACHUSETTS.

**Hospital for East Boston.**—There is a bill before the legislature to appropriate $100,000 for the erection of a hospital for East Boston.

**Hospital Union Fund Concerts.**—During February the Hospital Music Fund Committee will give concerts at Adams Nervine Asylum, Cullis Consumptives' Home, Home for Aged Couples, Boston City Hospital, and the Massachusetts Infants' Asylum.

**Willard Hospital Report.**—The annual meeting of the Willard Hospital, Bedford, for the treatment of alcoholism and narcotic habits, reports 53 patients treated during the year. Considerable enlargements have been made in buildings and equipment during the year, but the demand for more is urgent.

**Hospital for Children.**—The thirty-fifth annual meeting of the Children's Hospital Corporation in Boston reported 1,519 patients treated in the wards last year, and 24,529 in the outpatient departments. Earnest efforts are being made for funds to replace the burned convalescent home in Wellesley and for the erection of a hospital with adequate facilities in common with the new Harvard Medical School.

**Dissemination of Infectious Diseases.**—The quarterly meeting of the Massachusetts Association of Boards of Health discussed the dissemination of infectious diseases, the paper being read by Dr. Theobald Smith, and the source, effect and prevention of an unhealthy milk supply, the paper being by Prof. Charles Harrington. The association also took vigorous action in protest against the passage of the antivivisection bill now before the legislature which would very greatly interfere with the work of local boards of health in their efforts to prevent disease.

**Extension of Councilman's Work.**—The work of Dr. William T. Councilman of Harvard Medical School in the cause of smallpox, which was presented last year, is to be supplemented by further studies in the Philippines. Two of his assistants, who have worked for some years on the subject, Drs. W. R. Brinckerhoff and E. E. Tyzzier, will leave soon for Manila. They will endeavor to determine the relations of these protozoa to others, and the mode of infection of man. Other tropical diseases may also be studied as encountered. But the special object of the fund which pays their expenses is to gain more complete knowledge of these germs, associated with variola and vaccinia.

## PENNSYLVANIA.

**Physician Injured.**—Dr. Edward M. Emrick, Shamokin, was struck by a train at that place, January 18, and sustained a fracture of the base of the skull.

**Hospital Openings.**—Mount Pleasant Memorial Hospital, presented to the town by the late Jacob Justice of Philadelphia, was formally opened January 22.——St. Joseph's Hospital, Southside, Pittsburg, will be opened April 1.

**Election.**—The Medical Society of Center County held its annual meeting in Bellefonte, January 12, and elected the following officers: President, Dr. Walter J. Kurtz, Howard; vice-presidents, Drs. Samuel G. Coons, Benore, and John Sebring, Jr., Bellefonte; secretary, Dr. Jared Y. Dale, Lemont, and treasurer, Dr. George F. Harris, Bellefonte.

### Philadelphia.

**Dinner to Dr. Hinsdale.**—On January 29 a farewell dinner was given to Dr. Guy Hinsdale by a number of his professional friends.

**Did Not Report Smallpox.**—Dr. William C. Hollopeter was fined $10.50 for failure to notify the bureau of health of a case of smallpox. He contended that he had notified the bureau by telephone.

**School Hygiene.**—Under the auspices of the board of education a number of lectures are to be given on school hygiene. Dr. S. Weir Mitchell will deliver the first lecture, entitled "Nervous Diseases, Their Causes and Effects."

**Portrait Presented.**—An oil painting of the late Dr. Thomas G. Morton was presented to the Pennsylvania Hospital by the Association of Resident Physicians of that institution, January 11. Dr. Morton was connected with the hospital in various capacities for more than 40 years.

**Personal.**—Dr. R. Bruce Burns has been superseded as president of the board of directors of the Frankford Hospital by Dr. B. Frank Walters.——Dr. Randle C. Rosenberger, associate in bacteriology in the Jefferson Medical College, has been appointed director of the bacteriologic laboratories of the Philadelphia Hospital.

**Baby Farmer Convicted.**—Herbert J. Stahl, proprietor of a "baby farm," tried for the death of an infant from alleged starvation, has been convicted of involuntary manslaughter. The maximum penalty, which is two years' imprisonment and $1,000 fine, was imposed. The commonwealth asked for a verdict of murder in the second degree.

**Bequests.**—By the will of the late Cordelia A. Brown $5,000 is bequeathed to the Methodist Hospital to endow a free bed in memory of William Brown, her husband.——Harriet Richards, who died recently, left $10,000 to be expended by the executor of her estate in establishing free beds in one or more of the Roman Catholic hospitals of the city.

**Medicolegal Election.**—At the annual meeting of the Medicolegal Society, held on January 26, the following officers were elected: President, Dr. J. Cardeen Cooper; vice-presidents, John R. Umstead, and Dr. Justus Sinexson; secretary, Dr. William T. Hamilton; treasurer, Dr. G. M. O. Peltz, and censors, J. H. Wolfe, and Drs. Wm. Ruoff and Edgar W. Tully.

**New Medical Inspectors.**—Thirty-seven medical inspectors have recently been added to the department of health. These were chosen from 250 applicants, who were required to pass a Civil Service examination. Dr. Andrew A. Cairns has been appointed chief medical inspector. Dr. Thomas J. Beatty was made assistant chief medical inspector, and Dr. J. Howard Taylor, for years chief medical inspector, assistant medical inspector.

**Health Report.**—The report to the bureau of health showed, for the week ended January 30, 65 new cases of smallpox; for the previous week, 106. Of typhoid fever for the corresponding periods there were 126 and 88 new cases, respectively. The water supply in many parts of the city is very turbid because of the recent heavy snow and rainfall, a condition, perhaps, accounting largely for the increased number of typhoid cases. Pneumonia continues to claim a large number of victims, the number of deaths from the cause the last week being 97.

## RHODE ISLAND.

**Tetanus Patient Convalescent.**—A case of tetanus has been under treatment for a month at the Newport Hospital, with antitoxin, and is reported convalescent.

**Contagious Diseases.**—During October and November 210 cases of diphtheria were reported, 121 cases of scarlet fever, 86 cases of typhoid fever, and 44 cases of measles.

**Treats Many Cases.**—The Rhode Island Hospital reports 4,150 cases treated in 1903, and the average daily number of patients in hospital was 232. This is a marked increase, 19 per cent. and 10 per cent. respectively over the previous year.

**November Mortality.**—During November 580 deaths occurred in the state. Of these 165 were from communicable diseases, including 74 from tuberculosis; 79 from genito-urinary disease; 64 each from nervous and circulatory diseases; 58 from diseases of children, and 28 from violence.

**Election.**—At a recent meeting of the Newport Medical Society the following officers were elected: President, Dr. Christopher F. Barker; vice-president, Dr. V. Mott Francis; secretary, Dr. Mary E. Baldwin; treasurer, Dr. Douglas P. A. Jacoby; librarian, Dr. William S. Sherman; curator, Dr. Harry J. Knapp; bacteriologist, Dr. Chas. W. Stewart; executive committee, Drs. V. Mott Francis, William S. Sherman, and S. Parker Cottrell, and censors, Drs. William S. Sherman, Douglas P. A. Jacoby and Stephen C. Powell.

## SOUTH DAKOTA.

**Will War on Quacks.**—The State Board of Medical Examiners is said to be about to take active steps to rid the state of the numerous irregulars who have been plying their trade unrestrained up to this time.

**Fire in Hospital.**—Fire in the basement of the Sioux Falls Hospital, January 1, necessitated the removal of the patients in a fierce snowstorm, but no casualties occurred, and the building was not seriously damaged.

**District Society Meeting.**—The meeting of the Eighth (Yankton) District Medical Society was held in Vermillion, December 29. Dr. Frithiof N. H. Gyllenhammar, Gayville, was elected president; Dr. Thomas Cruickshank, Vermillion, vice-president: Dr. James L. Stewart, Irene, secretary and treasurer; Dr.

Sherman G. Berry, Tyndall, censor, and Dr. William E. Moore, Tyndall, delegate to state society. The next meeting will be held in Tyndall.

## TENNESSEE.

**Physician's House Burns.**—The house of Dr. William T. Watson, Lexington, was recently burned. The loss was $4,000.

**College Opens.**—Tennessee Medical College, Knoxville, opened January 4 for the mid-winter term, with an increased attendance.

**Smallpox.**—Sevier County has thirty or more cases of the disease.——The epidemic at Morristown is thought to be at an end.——In Knox County 101 cases are reported.

**Personal.**—Dr. T. B. Peyton, Gallatin, has been elected health officer of Sumner County, vice Dr. Brown, resigned.——Dr. William G. Ewing has been elected chairman of the Nashville Board of Health, succeeding Dr. John R. Buist, and Dr. Larkin Smith has been re-elected health officer.

**Crusade Against Illegal Practitioners.**—The State Board of Medical Examiners is making an active campaign against illegal practitioners of medicine. Two "herb doctors" of Chattanooga have been bound over to the Criminal Court; one of the accused was discharged and one failed to appear. More warrants have been issued.

**Commencement.**—The commencement exercises of the medical department of the University of the South, Sewanee, were held January 21. Dr. John S. Cain. the dean, delivered an address on "Medical Ethics," and Vice-Chancellor Wiggins an address on "The Necessity of Education in the Profession." A class of 27 was graduated.

## TEXAS.

**Smallpox.**—Burgess reports 3 cases; Sour Lake about 50 cases; Granger, 10 cases; Marshall. 7 cases; Troupe, 25 cases, and Tyler several cases.

**Still Another Medical College.**—Bell's Medical College, Dallas, has been incorporated with a capital stock of $3,000, by Dr. Arthur C. Bell and others.

**Hospital Transferred.**—Dr. Charles M. Rosser, Dallas, has formally transferred the Good Samaritan Hospital in that city to the president of the board of directors of the Texas Baptist Memorial Sanitarium.

**Society Meetings.**—Coleman County Medical Society.—At the last meeting of the society the following officers were reelected: Dr. Charles M. Alexander, Coleman, president; Dr. J. D. McCann, vice-president; Dr. Thomas M. Hays, Santa Ana, secretary and treasurer; Dr. Newton Long, Santa Ana, delegate to state association, and Drs. Gabriel B. Beaumont, Coleman, J. M. Mathews, and Charles M. Alexander, Coleman, censors.

Smith County Medical Society.—This society met at Tyler, December 8; the charter issued by the state association was presented, and the following officers were elected: Dr. Irvin Pape, Tyler, president; Dr. J. Charles Smith, Starrville, vice-president; Dr. Albert E. Woldert, Tyler, secretary and treasurer, and Drs. Thomas J. Bell, Jasper D. Phillips and John Z. Ferrell, all of Tyler, censors. At the banquet which followed, Dr. Holman Taylor, Marshall, councilor for the Fifteenth District, presided as toastmaster.

## UTAH.

**Hospital at Salt Lake.**—A building permit has been issued for the Latter-Day Saints' Hospital, Salt Lake City, to cost $90,000.

**New Post Hospital.**—The quartermaster-general has asked Congress to appropriate $155,000 for the erection of a new post hospital at Fort Douglas.

**Smallpox Epidemic.**—Smallpox is said to be raging in Cache and Box Elder counties. In Cache County 77 cases have already been reported.——Smallpox is abating at Nephi, and the quarantine has been raised.

**Weber County Society Meeting.**—The Weber County Academy of Medicine met at Ogden, January 6, and elected Dr. John S. Gordon, president; Dr. John Driver, vice-president; Dr. Lyman Skeene, Jr., secretary; Dr. Samuel L. Brick, treasurer, and Dr. James M. Harris, librarian, all of Ogden.

**Personal.**—Dr. Frederick E. Straup, Bingham, has been suffering from an infected wound of the thumb, which necessitated a partial amputation.——Dr. John J. Steiner has been appointed health officer of Panguitch.——Dr. Theodore B. Beatty, Salt Lake City, secretary of the State Board of Health, has been appointed a member of the committee on smallpox under the auspices of the U. S. P. H. and M.-H. Service.

## VIRGINIA.

**Bequest.**—By the will of the late Robert S. Bosher, Richmond, $2,000 is devised to the Sheltering Arms Hospital.

**Honor Dr. McGuire.**—On January 7 the Medical College of Virginia and the University College of Medicine suspended operations, and the faculties and students attended the unveiling of the statue of Dr. Hunter McGuire.

**Gives Solarium.**—Mrs. Lewis H. Hyde of New York has given $3,000 to provide for the erection of a sun-parlor in the Winchester Memorial Hospital. It will be octagonal, two stories high, and built almost entirely of glass.

**Free Hospital Treatment for Indigent Virginians.**—A bill is proposed making an appropriation of $17,000 to the Medical College of Virginia. The present annual appropriation of $5,000 for general purposes is included and is to be expended as heretofore. The remaining $12,000 is to be set apart for the purpose of payments to the college at the rate of $1 a hospital day, which includes board, lodging, nursing, etc. All citizens of the state are entitled to receive treatment on proper proof of citizenship, necessity for treatment and pecuniary inability to pay for same.

## WEST VIRGINIA.

**New Hospital Opened.**—The Mountain States Hospital, recently erected by Dr. Charles S. Hoffman at Keyser, has been opened for the reception of patients.

**Will Build City Hospital.**—The executors of the estate of the late Dr. Andrew G. Clarke, Parkersburg, have turned over to the designated trustees $26,308.56, the amount of the bequest for a city hospital.

**Societies Meet.**—Marion County Medical Society.—At the second annual meeting held in Fairmont, December 30, Dr. Presley B. Ogden, Fairmont, was elected president; Dr. Albert L. Peters, Gray's Flats, vice-president; and Dr. Jesse A. Jamison, Fairmont, censor. Dr. James W. McDonald, Fairmont. was re-elected secretary, and Dr. William H. Sands, Fairmont, treasurer.

Marshall-Wetzel Bi-County Medical Society.—The following officers were elected at a meeting held in Moundsville, January 4: President, Dr. John C. McCullough, Moundsville: vice-president, Drs. J. F. Reger, Littleton, and James E. Cooper, Cameron; secretary, Dr. W. De Witt Stewart, Moundsville, and treasurer, Dr. John R. Davis, Moundsville.

**Visiting Staff Selected.**—The members of the visiting staff of the Huntington Hospital have apportioned their time of service as follows: January, June, November—Drs. Thomas J. Pritchard, Charles T. Taylor, Isaac R. LeSage and Thomas F. Stuart; February, July, December—Drs. Edward S. Buffington, Alexander C. Burns, William R. Cummings, Eastbank, and S. W. Hogsett; March, August—Drs. Robert E. Vickers, Edward E. Sample, Thomas E. W. Grover and W. D. Hicks; April, September—Drs. Henry A. Brandebury, George N. Waldeck, Archibald Crary, and H. C. Solter; May, October——Drs. Morgan Baker, John D. Myers, J. E. Rader, and Cassius C. Hogg; and oculists and aurists—Drs. Thomas W. Moore. J. H. Reynolds and John C. Geiger.

## WISCONSIN.

**Sanitarium Opens.**—The Waukesha Springs Sanitarium under the superintendency of Dr. Byron M. Caples, has opened.

**Removal to Capital.**—The State Board of Health has moved its offices from Milwaukee to Madison. Dr. Cornelius A. Harper, Madison, has been elected secretary, succeeding Dr. Uranus O. B. Wingate. Dr. William F. Whyte, Watertown, has been re-elected president.

**Would Muzzle Dogs.**—All Milwaukee dogs running at large are to be muzzled for six months, if the recommendation of the joint committee on judiciary and health be adopted by the city council. The proposed ordinance has the endorsement of the Milwaukee Medical Society.

**Will Prosecute Paradis Again.**—The State Board of Medical Examiners announces that, notwithstanding its defeat in the case against Joseph E. Paradis of Marinette, for practicing medicine without a license, it will make another attempt to prosecute him, as the adverse decision was due only to a technicality.

**Eyes and Ears To Be Examined.**—Investigations have demonstrated that 38 per cent. of the school children of the state are defective in vision or in hearing, or in both. The State Board of Health has, therefore, determined that, on entrance to the public schools, each pupil shall be examined, and the parents of those found defective in sight or hearing shall be notified, and the suggestion made that corrective measures be taken.

**Personal.**—Dr. Frank Garlock, Racine, has gone to Manila, P. I., to practice.——Dr. Hasso A. Meilike, Clintonville, has been appointed a member of the State Board of Health.——Dr. Thomas B. McIndoe, Rhinelander, has been reappointed a member of the State Board of Medical Examiners.——Dr. Charles S. Sheldon, Madison, has been re-elected secretary, and Dr. Sidney H. Hall, Ripon, treasurer, of the Wisconsin State Medical Society.

## GENERAL.

**Panama Physicians Preparing.**—The U. S. Public Health and Marine-Hospital Service is said to have begun actively to prepare for the Panama Canal campaign. Physicians are to receive special training, and, under the supervision of experts, will endeavor to prevent much of the sickness that is liable to occur among the workmen on the isthmus. The headquarters will be in a large hospital to be erected at Colon.

**The Committee on Medical Legislation** of the American Medical Association, it is announced by the Chairman, Dr. Charles A. L. Reed, will meet at the New Willard Hotel, Washington, D. C., at 11 a. m., Wednesday and Thursday, February 10 and 11, in conference with the National Auxiliary Legislative Committee, consisting of one representative from each state medical association and from each of the national medical services.

## CANADA.

**Personal.**—Dr T. J. Norman of Toronto has been appointed assistant superintendent of the Asylum for the Feeble-Minded at Orillia, Ontario, in succession to Dr. Mohr.——Dr. Charles A. Hodgett has been appointed secretary of the Ontario Board of Health, in succession to Dr. Peter H. Bryce.

**A University for British Columbia.**—The idea of the establishment of a university in British Columbia was put forward recently at a meeting of the Tourist Association of Victoria, and the citizens of that province will work assiduously for the institution. Its success will probably mean a medical school on the Pacific coast.

**Epidemic of Typhoid Fever in Montreal Improving.**—The typhoid fever situation, which has been causing considerable alarm in Montreal during the past six weeks, is now decidedly improving. In Westmount only one new case has been reported in several days. At St. Henri no new cases have been reported during the past week. Dr. Fleury of the Notre Dame Hospital, has found, on making an examination of the blood of some of the St. Henri patients, that some of the cases were not genuine typhoid as was supposed.

**Toronto Orthopedic Hospital.**—The fifth annual report of this hospital, just issued, shows the past official year to have been the most successful in its history. In the first year 172 patients were treated; in the second, 221; third, 255; fourth, 278; fifth, 353. There were 31 patients Sept. 30, 1902; admitted during the following year, 322; total treated, 353; discharged, 323; deaths, 1; patients remaining at end of year, 29. Of the 353 patients, 146 were under and 207 were over 14 years of age. The number of operations was 290.

**British Columbia Association for the Prevention of Consumption.**—This was established at a largely attended meeting held in Victoria, B. C., January 20, at which were present delegates from all parts of the province, as well as representatives of the dominion and provincial governments. Sir Henry Joly, lieutenant-governor of the province, was elected honorary president, and Dr. Proctor of Kamloops, secretary; Dr. C. J. Fagan of Victoria, treasurer, and on the committee of management, Dr. J. C. Davie of Victoria and Dr. R. E. Walker of New Westminster. The provincial government will be approached for a grant of $25,000.

**The Health of Victoria, B. C., During 1903.**—There were reported in Victoria during 1903, 66 cases of diphtheria, 6 deaths; scarlet fever, 117 cases, 2 deaths; other cases of infectious diseases were very few, with no deaths. Two cases of smallpox occurred, but prompt measures prevented the spread of the disease. The Lazaretto at D'Arcy Island has only two patients—both Chinese. Precautions are still being continued to prevent the introduction of the bubonic plague. Taking Victoria's population at 25,000, the average death rate per 1,000 for the past three years has been 11.57. The total number of deaths in Victoria during 1903 was 131.

## FOREIGN.

**Neurology in Asia and the South Sea.**—The professor of psychiatry at Munich, Emil Kraepelin, has just started on a long tour of investigation through eastern Asia and the southern Pacific to study nervous and mental disease as it occurs there and the conditions which influence it, especially its relation to alcoholism. Dr. Gudden will conduct the psychiatric clinic during his absence.

**Anticharlatan Congress.**—The first annual congress of the Anti-Charlatan Society of Germany was held at Berlin, January 14. Excellent addresses were made on the legal status of quacks, on proprietary medicines, etc. The attendance was not as large as anticipated. Reissig of Hamburg advocated the plan of educating the public in regard to quack practices by means of popularly written pamphlets.

**Fifth International Congress of Dermatology.**—Berlin will welcome this congress Sept. 12 to 17, 1904. Professor E. Lesser will preside, and Dr. O. Rosenthal is the general secretary. His address is Potsdamerstr. 122 g. Berlin W. The themes appointed for discussion are: "Cutaneous Affections in Case of Anomalies in Metabolism," "Syphilitic Affections of the Organs of Circulation," "Epitheliomata and Their Treatment," and "*Present Status of Leprosy (since the first leprosy congress of 1897)*," and "Present Status of Anesthetic Leprosy."

**Visit of Spanish Medical Students to Paris.**—A large number of Spanish students from Madrid, Valencia, Barcelona and other university centers, recently took a trip to Paris, where rooms had been engaged for them in the Latin quarter. They took their meals at the large Students' Co-operative Restaurant, which was founded and is managed by and for the students of the quarter at the minimum of expense. The Pasteur Institute, the hospitals and the clinics were the goal of the medical members of the party, and every facility was afforded them by the committee of Paris students appointed to receive the delegation. Great scientific zeal was displayed by the students during the few days of their visit.

**Electrotherapy in Disfavor at Lille, France.**—Professor Doumer of Lille has for several years had charge of a service of electrotherapy, which he established with the modest sum of $1,300 in 1892, this expense shared by the city and medical faculty. As this sum was inadequate he has supplied apparatus as needed, paying for it himself. From this modest service have issued a large number of important works on electrotherapy. Some have been published in the *Nord Médical*, of which he is one of the three founders, and others in the official bulletin of the French Société d'Electrothérapie et de Radiologie. He has treated an average of 480 patients annually, and his laboratory has been frequently sought by visiting foreigners. One of his latest publications is on the "Treatment of Mucomembranous Enterocolitis with the Continuous Current at High Strengths." The municipal authorities at Lille have recently summarily closed his service, alleging that it is not sufficiently frequented to pay for the room it occupies, but the true reason, the *Nord Médical* asserts, is to be found in Doumer's political opinions.

**The Source of Radium.**—Joachimsthal in Bohemia has long been famous for its silver and tin mines. The German word for dollar, "Thaler," is derived from its name, as the first silver dollars were made there. As the silver mines were worked out, the place declined until a new industry took its place, the making of the fashionable "uranium glass," which owes its tints to the uranium ore which is found there in abundance. The refuse is called pitchblende or pitch ore, and is a submetallic, pitchy, grayish or greenish-black opaque substance which was regarded as of no value. When Curie, a year ago, wrote to the president of the Vienna Academy of Sciences to ask his aid in procuring him a large quantity of this pitchblende, several tons were forwarded to him and no charge was made. At present the Joachimsthaler authorities are cherishing their pitchblende and will not sell it at any price, not knowing what they ought to charge for it, and perhaps fearing that the supply will give out. It takes ten tons of pitchblende to produce one gram of radium.

**French Legislation on Vaccination.**—Vaccination has not hitherto been compulsory in France, but the new law, to take effect April 7, 1904, requires every resident in France, native or foreign born, to be vaccinated during the first year of life and revaccinated at the eleventh and twenty-first years. An incident is related in a foreign exchange showing the inconveniences of the old plan. An epidemic of smallpox had broken out at Nice, and the local authorities vaccinated the inhabitants as a preventive measure, not using coercion. An Englishwoman, an Eddyite, preached an antivaccination crusade and prejudiced many persons against it. The authorities were at a loss what to do, and had about decided to compel the lady to leave town when she contracted smallpox herself and died. The disease did not develop, we are told, among any of the newly vaccinated subjects. Such incidents can not occur after the new law goes into effect, as, if persons are not willing to submit to vaccination, they will not be allowed to reside in France. Nowhere else in Europe is a triple vaccination required.

**The New German "Academies for Practical Medicine."**—The Prussian authorities are planning an institution in connection with the public hospital in cities, which is to afford graduate instruction and train physicians in specialties. The city of Düsseldorf is building a new public hospital, and arrangements are being made for the new "Akademie für praktische Medizin" to be connected with it. It will have facilities for instruction in internal medicine, surgery, obstetrics, infectious diseases and a fifth department devoted to pathologic anatomy, etc. There will be subdepartments for eye, nose, throat and ear work, for children's diseases, cutaneous and nervous affections, and treatment of accidents. Physicians who wish to take up a specialty will be installed as assistants in the special departments, and after serving a certain number of years will be given a certificate as to their proficiency in their specialty. The training of nurses for the sick is also another task of the academy, with the holding of free graduate courses for all physicians, and instruction of the public in matters of hygiene, but the principal purpose for which it is organized is to perfect the education of the graduates from the medical colleges who are not allowed to practice until they have served a year in some hospital or allied official institution.

## Correspondence.

### Price and Quality of Diphtheria Antitoxin.

PHILADELPHIA, Jan. 30, 1904.

*To the Editor:*—In your editorial of January 23, on the subject of "The Price of Diphtheria Antitoxin," you state: "Judging from the correspondence before us, and from the information which we have concerning the manufacture of antitoxin, we can not but believe that the prices of antitoxin have been and are higher than is necessary for a reasonable profit."

Appreciating the wrong impression that has been created by the sensational articles appearing in the lay press and by your statement relative to the price charged being unreasonable, and to give the reasons why we discontinued the lower potency of antitoxin, formerly known as "Standard," will you permit me to state the following facts:

During the past nine years we have been preparing antitoxin especially to meet the demand of American physicians. We offered at first three grades, known as "Standard," containing 100 units per c.c.; "Potent," containing 250 units per c.c.; "Extra Potent," containing 500 units per c.c. The demand gradually increasing and being principally for the higher potencies, we cut out the weakest strength entirely, and placed two potencies of serum on the market, known as "Standard," the potency of which was increased to 250 units per c.c.; and "Concentrated," 500 units per c.c. During the past two years the demand for the higher potency serum or "Concentrated" has largely increased, while the demand for the weaker serum has greatly diminished.

We date every package of antitoxin and exchange for a fresh supply any serum not used within the time specified on the label. Our experience proved that the physicians demanded the more concentrated product, and since we were compelled to exchange for this the greater portion of the lower-potency serum distributed, and since these exchanges added a large expense to the distribution and cost of antitoxin, we believed that by issuing but one strength—and that the higher potency, the returns would be largely controlled; that we would be issuing what physicians demanded, and that this saving of expense of exchanging unused serum would warrant a reduction in price. This is what we have done, and prices have been reduced on an average of 15 per cent., as per the following schedule:

| | Present Price. | Former Price. |
|---|---|---|
| 500 units | $1.10 | $1.25 |
| 1000 units | 2.00 | 2.25 |
| 2000 units | 3.50 | 4.00 |
| 3000 units | 5.00 | 5.75 |
| 4000 units | 6.50 | 7.50 |

(By requests of physicians we have relisted the 500 units package.)

We had not supplied the Chicago Board of Health, previous to January 7, for a considerable length of time, nor would we, since the price at which they were purchasing their supply was less than that at which we could prepare it. Consequently, when we were asked for a quotation, we offered the high-potency serum only. We were not requested to quote on the weaker serum, the general distribution of which had been discontinued, and on which we would have been pleased to quote a price on request, at about cost of production. We have always endeavored to meet every reasonable demand that has been made for legitimate preparations, and if the Board of Health of Chicago or of any other city or state requires a low-potency serum for free distribution, we shall be glad to furnish it, and at about cost. In determining to offer but one potency of antitoxin we believed that the indigent sick were entitled to receive the same advantage of concentrated serum as the well-to-do.

Meanwhile, if the City of Chicago or any other city or town having a regularly organized health department refuses to supply reputable physicians with antitoxin for the treatment of the needy poor, we shall be glad to donate sufficient serum to meet such emergencies. The conscientious manufacturer recognizes the importance of saving life from diphtheria and protecting those exposed to contagion by immunization, just as thoroughly as does the conscientious physician.

The firms engaged in producing antitoxin have invested large sums of money, and are safeguarding the quality of the serum by every means that science, skill and money can command. The directors of the laboratories and their assistants are chosen solely by their scientific attainments; furthermore, we recognize that only by producing the highest standard of quality is it possible for such a business to be continued.

During the past few years the expense of preparing antitoxin has increased enormously. In addition thereto, the cost of syringes, needles and devices for injecting serum direct to the patient, has added materially to the expense, and it is solely by controlling the expense attending the exchange of the weaker potency for the higher potency that we believed it possible to effect such a saving as would enable us to reduce the price.

Relative to the profits accruing from the production of antitoxin, we shall be glad to have any accredited representative of THE JOURNAL or of the American Medical Association examine our books and learn the exact profit earned in the production of antitoxin.

There is no trust existing among the manufacturers of antitoxin, nor do we believe such an organization is possible, since the production of antitoxin is only a portion of the business of each firm. While it is true that the lists are practically the same, this is also true of the general and standard commodities offered.

The conclusion of your editorial that "Under no consideration must it be thought that physicians want a cheap antitoxin" is insured, since the United States Government has rigid regulations safeguarding its production, and, furthermore, the products are purchased, *from time to time*, in the open market and subjected to tests, and it would be exceedingly unwise for any firm to market an inferior product, under the careful supervision now practiced.

Meanwhile, it can be depended on that competition, which is keen among the different manufacturers of antitoxin, precludes the possibility of excessive prices being charged.

H. K. MULFORD.

### A Protest and Warning Against Use of Name.

NEW YORK CITY, Jan. 30, 1904.

*To the Editor:*—A concern styling itself the A. S. Valentine Chemical Company is advertising a preparation in the form of a capsule for which it claims scientific and wonderful value in the treatment of gonorrhea, its complications and sequelæ. Investigation shows that the A. S. Valentine Chemical Company is a corporation formed under the laws of the State of New Jersey, and that its incorporators are A. F. Evans, Frank L. Shelton and Nannie L. Shouse, all residents of Kansas City, Mo. This company has a small office at a pretentious address in New York City, which address it uses in its advertisements. The capsule they sell is a gelatin-coated thick fluid bearing the name "Benzol-Capsule Valentine." The contents of the capsule have been represented as "distilled and encapsulated by Valentine's special process."

As is admitted by the person in charge of the office, who is one of the directors, no person by the name of Valentine has ever been connected with the A. S. Valentine Chemical Company, nor has any person with this surname given it his or her consent to the use of this name.

In order to protect the profession and myself I call attention to the following facts:

1. That I have, in all my writings on gonorrhea, its complications and sequelæ, emphatically expressed my conviction that no drug or combination of drugs administered internally can be a specific in the treatment of these diseases.

2. That no drug or combination of drugs given by the mouth can destroy gonococci.

3. That I do not know the contents of the capsules sold by these people and that I certainly do not recommend them or any other secret preparation.

4. That neither I, nor any relative, nor any acquaintance of mine is in any manner connected with the A. S. Valentine Chemical Company.

5. That on Jan. 7, 1904, through my legal adviser, Henry C. Quinby, of this city, I formally requested the A. S. Valentine Chemical Company to desist from the use of the name Valentine, and on their refusal I caused a petition for an injunction against their so doing to be prepared for filing in the Circuit Court of the United States.

On January 20 the counselor of the so-called Valentine Company had an interview with my legal adviser, Mr. Quinby, which resulted in the former unequivocally advising his clients to cease using the word Valentine in any manner.

I will thank any of my colleagues to inform me of any violation of this promise, so that I may, for the sake of the public, the profession, and my own sake, prosecute as vigorously as the best possible counsel and any sum of money can.

Ferd. C. Valentine.

### Worthless Galenical Preparations.

New York City, Jan. 29, 1904.

*To the Editor:*—In a recent communication, printed in The Journal of the American Medical Association, I stated that one of the causes of therapeutic nihilism and therapeutic chaos was to be found in the inferiority of some drugs and in the great variability of galenical preparations. I pointed out the great importance of ordering galenical preparations from strictly reliable sources and referred to the advisability of prescribing the active principles of drugs in those cases where the active principles have been isolated. I want to give an additional illustration which very forcibly illustrates the correctness of my position. As is well known, the solid extract of nux vomica of the U. S. Pharmacopeia must contain 15 per cent. of alkaloids. Prof. Frederick J. Wulling of the University of Minnesota has just reported the analysis of a sample of extract of nux vomica, which contained *not a trace of alkaloid*, instead of 15 per cent. (The italics are Professor Wulling's.) The explanation given is that the extract was undoubtedly heated to too high a temperature in the process of evaporation. Many extracts become entirely worthless if heated too high, and this is done only too often by careless manipulators. Is it any wonder that some physicians become therapeutic nihilists? Suppose a physician uses an extract like the above in gradually increasing doses and fails to get any effect whatsoever—is it any wonder that the seed of skepticism is planted in his mind? Let the physician not condemn his weapons before he is sure that he used the right weapons and that they were properly tempered.

William J. Robinson, M.D.

110 East 128 Street.

## Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

### RADIUM IN CANCER.

Indiana, Jan. 28, 1904

*To the Editor:*—I have a patient suffering with cancer of the larynx who insists that I investigate radium in the hope of applying it in his case. Can you direct me to a reliable source for information?

W. M. H

Answer.—The subject of radium and its therapeutic use is involved in so much theory and speculation, as is usual with a new therapeutic agent, that it is impossible at this time to give an opinion as to its exact status in medicine. It will doubtless be found of value in some cancers and other skin affections, but probably not in so many diseases as some writers seem to think. We refer you to a paper by Dr. Inglis in this issue, to our editorials of May 9, 1903, p. 1293; July 11, 1903, p. 107; Aug. 1, 1903, p. 317; Aug. 8, 1903, p. 377, and to abstracts of papers as follows: By Exner and by Holzknecht, Wiener kl. Wochenschrift, No 27, 1903 in The Journal, p. 345, Aug. 1, 1903; by London, Berlin kl Wochen., No. 23, 1903, in The Journal, p. 400, xli, Aug. 8, 1903, by Dawson Turner and by J. Macintyre, British Med. Jour., Dec 12, 1903, in The Journal, p. 65, xlii, Jan. 2, 1904; by Tracy, N. Y. Med. Jour., Jan. 9, 1904, in The Journal, p 266, xlii, Jan 23, 1904.

### UNJUST CRITICISM OF A COLLEAGUE.

Nebraska, Jan. 27, 1904

*To the Editor:*—Thursday, January 14, I was called to see a 6-year-old boy, who for several days had complained of headache sore throat, loss of appetite, and who had appeared feverish to the parents' touch. I found the following: Temperature, 104.5; pulse 140; epiglottis and larynx congested and swollen, soreness to the touch on external parts, breathing troublesome, dark sores on tongue, gums, tonsils and as far down as I could see with the use of an ordinary tongue depressor; bowels very constipated severe headache and sweating. I had them use an antiseptic mixture containing nitrate, glycerin, cocain, etc., as an application every two hours, after first using a 5 per cent. carbolic acid solution as a cleansing agent. Then I kept his bowels open and administered iron, glonoin and aconite and gave at night a powder containing caffein citrate, morphin and acetanilid in aromatic powder. The fever hung around 102 or 103 until January 20, when several scabs came off with hemorrhages and the temperature went to 99.5 and the pulse to 110. January 23 the temperature and pulse were normal, no swellings, little soreness, and I ordered the boy out of bed for Sunday and ordered sulphur disinfection, as I realized that I had had a mild diphtheria. Sunday a competitor of mine called at the house, looked in the boy's mouth and, without asking me a word of the history or treatment, said: "Never was even a beginning to a mild diphtheria, and you need not disinfect at all Humbug." I would like to have your opinion on several things: 1 What would my history suggest to you was the case? 2. Could any physician go to a boy after he is well, or out of bed, look in his mouth and say justly, as this doctor did? 3. Is it professional?

Answer.—1. The history suggests diphtheria or some infectious disease, but one at a distance can not judge accurately. Only a bacteriologic examination could settle the diagnosis absolutely 2. No. 3. No.

### THE RELATION OF OVULATION AND THE TIME OF IMPREGNATION TO MENSTRUATION.

North Dakota, Jan. 22, 1904

*To the Editor:*—If intercourse resulting in pregnancy occurs only a few (two to four) days before the menstrual period, would the expected menstruation occur as usual, or would the suppression begin from the time of intercourse and impregnation?

C. E M

Answer.—Much has been written on this subject and some effort has been made to solve the problem by experiments, but there is not yet agreement on the data and their interpretation It is generally admitted that there is some genetic relation between ovulation and menstruation, but whether ovulation occurs during menstruation, during the period of premenstrual swelling, after menstruation, or in the intermenstrual period, is not certainly known. Moreover, it is not known how long the free unfertilized ovum can exist nor how long the process of ripening, that is, the casting off the polar bodies, takes. It is known that the spermatozoa can live hours and days in the healthy genital passages of the woman. It is probable that the ovum escapes before or during or just after menstruation and remains intact and capable of being fertilized by the spermatozoa received during intercourse shortly after the end of menstruation. Fruitful intercourse which occurs later than one week after menstruation is probably to be ascribed to the fertilization of an egg that belongs to the period of the falling menstruation. Intercourse within a day or two of menstruation, if it results in fertilizing an ovum, may either prevent the appearance of the menstrual discharge or cause it to be much smaller in amount than usual. This statement seems to agree best with clinical facts known concerning the duration of pregnancy. If pregnancy results from a single coitus it lasts, as a rule, about 273 to 274 days. This corresponds with the common method of reckoning 280 days from the first day of the last menstruation. If menstruation lasts on an average four to five days, coitus, occurring two to three days later, results in the fertilization of an egg already present. If, as held by some, the spermatozoa are retained in the tube acting as a receptaculum seminis until the escape of the ovum just before the next menstrual period, the real length of the pregnancy dating from fertilization would be two or three weeks less, or 250 to 260 days. It is a fact, however, that the duration of pregnancy dating from coitus which occurs shortly before menstruation is generally about 274 days, or 295 to 300 days dating from the last menstruation. Since, then, the duration of pregnancy dating from coitus is about the same whether intercourse occurs shortly after menstruation or shortly before expected menstruation, it seems probable that the egg fertilized in the first instance is from a different period than that of the latter.

### THE EFFECT OF SCARLET FEVER, MEASLES, ETC., ON THE MILK OF NURSING WOMEN.

Glenville, Pa., Jan. 25, 1904

*To the Editor:*—I have seen many mothers, who were having measles, diphtheria and scarlet fever, nurse their children. The practice is common in my section. Have there ever been studies made of mother's milk under such conditions as to the danger or immunity to the child? Can you refer me to any literature on the subject? W. O. S.

Answer.—The propagation of tuberculosis through milk, especially cow's milk, has been the subject of considerable discussion and some investigation. Little or nothing has been done in regard to the propagation of scarlet fever and measles through this channel. Many epidemics of scarlet fever have been attributed to the supply of cow's milk. The greater number of these have been reported from England. It was formerly thought that the contagion came from the cow that was affected with a disease identical with scarlet fever. It is generally admitted that in epidemics which are really caused by milk supply the milk is contaminated by the milker or some one who has something to do with the handling of the milk or is living in the rooms where it is cared for or stored. Nursing women, while not exempt from these contagious diseases, are not very often affected, partly because of lessened liability of adults and partly because of decreased danger of infection. Scarlet fever of the puerperium was formerly thought to be common. These cases were almost always due to genital wound infection with skin and throat manifestations and were not cases of true scarlet fever. When a nursing woman is attacked with any acute febrile disease there is generally a diminution in the milk secretion while the proportion of solids is changed, albuminous constituents and the salts being increased. It is probable, however, that the quantitative changes in the chemical constituents of the milk are of less importance than formerly supposed. For the last few years much attention has been given to the milk ferments, and it is probable that these biologic constituents are very important in determining the value, digestibility and assimilability of milk. The study of the ferments as changed by the acute febrile diseases has not yet been undertaken, for this field of investigation is as yet very new. If our correspondent will keep on the lookout in the journals of physiologic research he will no doubt soon find that some worker has entered this interesting field.

In regard to the practical question of withdrawing the child from the breast, it is probably better to let the child continue nursing, if the attack is not very serious. Before the question arises the chance for and danger of infection has already occurred. Further danger of infection is rather from exhalations from the throat than from breast milk. The biologic and chemical changes in the milk are probably not so important as to counterbalance the advantages of the maternal secretion. In a more severe case in which the condition of the mother is serious and when nursing would be a strain on her, of course, the child must be withdrawn at once.

## Marriages.

H. B. Hargus, M.D., to Miss Lena S. Applegate, both of Klamath Falls, Ore., January 9.

Frederick Harrison, M.D., Fordyce, Ark., to Miss Fannie Jones of McCrory, Ark., January 14.

John C. Malone, M.D., Linden, Ala., to Miss Virginia Prowell of Dayton, Ala., January 13.

Frederick J. Kalteyer, M.D., Philadelphia, to Miss Helen Redmond, in New York City, January 15.

H. Stokes Dobiss, M.D., Atlantic City, N. J., to Miss Effie Fickens of Bridgeport, Conn., January 11.

Wallace A. Ort, M.D., Wellston, Ohio, to Miss Stacey Belle Elliott of Columbus, Ohio, at Hamilton, Ohio, in December last.

## Deaths.

**John Curtis Jones, M.D.** University of Edinburgh, Scotland, 1860; a member of the American Medical Association; surgeon in the Confederate Army; member of the Ninth International Medical Congress; member of the State Board of Medical Examiners; some-time vice-president of the Texas State Medical Association; died recently at his home in Gonzales, Texas.

**John W. Harriman, M.D.** State University of Iowa, Iowa City, 1891, professor of anatomy in the State University of Iowa; formerly surgeon-major Fiftieth Iowa Volunteer Infantry; a member of the American Medical Association, died in Iowa City, January 25, three weeks after an operation for appendicitis, aged 38.

**Edward B. Dana, Jr., M.D.** College of Physicians and Surgeons, New York, 1889, died from pneumonia at his home in Metuchen, N. J., January 21, aged 40. He was president of the borough board of health and permanent delegate to the state medical society.

**Egbert D. Sutherland, M.D.** College of Physicians and Surgeons, Chicago, 1885, of Bay City, Mich., who served with the Thirty-third Michigan Infantry, U. S. V., in the Spanish-American War, died from consumption in Detroit, after a long illness, January 25.

**William W. Firestone, M.D.** Charity Hospital Medical College, Cleveland, Ohio, 1865, a member of the American Medical Association, and one of the oldest and most esteemed practitioners of Wooster, Ohio, died at his home in that city, January 25, aged 61.

**Oliver Chase Wiggin, M.D.** Harvard University Medical School, Boston, 1866, some-time president of the Rhode Island Medical Society, and president and secretary of the Providence Medical Association, died in Jacksonville, Fla., Feb. 3, 1903, aged 63.

**Aaron S. Van Buskirk, M.D.** Medical College of Ohio, Cincinnati, 1876, died at his home in Fort Wayne, January 22, a day after an emergency operation for gallstones had been performed, aged 56. At the time, he was convalescing from pneumonia.

**J. J. Arthur Liebertanz, M.D.,** of Zurich, Switzerland, a passenger on the North German Lloyd steamer *Hannover*, was found dead in his cabin on the steamer in Baltimore, January 26, from the effects of an overdose of morphin, aged 42.

**George H. R. Bennet, M.D.** University of the City of New York, 1860, surgeon of the Twenty-third New York Volunteer Infantry in the Civil War, died suddenly from apoplexy at his home in Brooklyn, N. Y., January 26, aged 66.

**Charles J. Warner, M.D.** Cleveland Medical College, 1862, a member of the American Medical Association, died at his home in Congress, Ohio, from cancer of the stomach, January 23, after an illness of several weeks, aged 68.

**John B. Murphy, M.D.** College of Physicians and Surgeons of Ontario, Toronto, 1876, medical superintendent of the Hospital for the Insane, Brockville, Ont., died suddenly from heart disease at that place, January 17, aged 54.

**Hugh Spears, M.D.** Faculty of Medicine of Queen's University, and Royal College of Physicians and Surgeons, Kingston, Ont., 1873, was found dead in bed, from asphyxiation by gas, Nov. 25, 1903, aged 69.

**William Elliott, M.D.** Chicago Medical College, 1884, while driving across the Illinois Central tracks at Peotone, January 11, was struck by a train and sustained injuries from which he died January 18, aged 48.

**Robert M. Weed, M.D.** New York Homeopathic Medical College and Hospital, 1880, of New Rochelle, N. Y., died at Mount Vernon, N. Y., from disease of the liver of long standing, January 26, aged 49.

**Frederick A. C. Emerson, M.D.** Medical School of Maine at Bowdoin College, Brunswick, 1883, died at his home in Garland, Maine, January 15, from consumption, after an illness of nearly two years, aged 44.

**Selden Whittaker Crowe, M.D.** National Medical College, Washington, D. C., 1857, died at his home in New York City, January 24, from pernicious anemia, after an illness of four months, aged 68.

# Association News.

**Atlantic City Hotel Headquarters.**—The following hotels have been selected by the Hotel Committee as headquarters for the various sections of the American Medical Association during the annual session, June 7-10, 1904, at Atlantic City. The committee have selected the best hotels along the beach, and in each case have chosen a hotel as near the meeting hall of the respective sections as possible, so as to reduce to the minimum the distances between headquarters and meeting places.

| SECTION. | HOTEL. |
|---|---|
| General Headquarters............. | Marlborough House. |
| Practice of Medicine.............. | Hotel Traymore. |
| Obstetrics and Diseases of Women | Hotel St. Charles |
| Surgery and Anatomy............. | Haddon Hall. |
| Hygiene and Sanitary Science...... | Garden Hotel. |
| Ophthalmology.................... | Seaside House. |
| Diseases of Children.............. | Hotel Dennis. |
| Stomatology...................... | The Islesworth. |
| Nervous and Mental Diseases....... | The Brighton. |
| Cutaneous Medicine and Surgery... | The Shelburne. |
| Laryngology and Otology.......... | The Strand. |
| Materia Medica, Pharmacy and Therapeutics...................... | Young's Hotel. |
| Pathology and Physiology......... | The Windsor. |

Any information with regard to rates, location, reservation of rooms, etc., will be cheerfully given by the committee, who invite correspondence on the subject.

Wm. Edgar Darnall, M.D.,
Chairman Hotel Committee, Atlantic City, N. J.

# The Public Service.

## Army Changes.

*Memorandum of changes of station and duties of medical officers U. S. Army, for the week ending Jan. 30, 1904:*

Banta, Wm. P., asst.-surgeon, ordered to Fort Clark, Texas, for temporary duty.

Turnbull, Wilfrid, asst.-surgeon, granted two months' leave of absence to go beyond the sea.

Kirby-Smith, R. M., asst.-surgeon, granted twenty days' leave, for extension of seven days.

Hutton, Paul C., asst.-surgeon, relieved from further duty at Peking, China, and ordered to General Hospital, Fort Bayard, N. M.

Hansell, H. S., asst. surgeon, assignment to Manila, P. I., revoked, and instead ordered to legation guard, Peking, China, for duty.

Carpenter, Alden, contract dental surgeon, ordered to Fort Walla Walla, Wash., for temporary duty.

Voorhies, Hugh G., contract dental surgeon, on temporary duty at Plattsburg Barracks, N. Y., has been granted seventeen days' leave from January 17.

## Navy Changes.

Changes in the medical corps of the Navy, week ending Jan. 30, 1904:

Arnold, W. F., surgeon, sick leave extended two months.

Spear, R., P. A. surgeon, ordered to the Naval Hospital, Washington, D. C.

Shipp, E. M., P. A. surgeon, ordered to the Naval Hospital, New York.

Stone, M. V., asst.-surgeon, retired from active service on account of disability incident to the service.

Payne, J. H., Jr., P. A. surgeon, detached from the *Wabash* and ordered to the Naval Hospital, San Juan, P. R.

Morse, E. T., pharmacist, detached from the *Navy Yard, Portsmouth, N. H.*, and ordered to the Naval Laboratory.

## Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended Jan. 28, 1904:

Wertenbaker, C. P., P. A. surgeon, granted leave of absence for five days from January 21. Detailed to make inspection of places in Mexico and the Texas border recently infected with yellow fever.

Rosenau, M. J., P. A. surgeon, granted one day's leave of absence under Paragraph 189 of the Regulations.

Greene, J. B., P. A. surgeon, granted leave of absence on account of sickness for fifteen days from January 26.

von Ezdorf, R. H., P. A. surgeon, granted leave of absence for thirteen days from January 25.

Anderson, J. F., P. A. surgeon, granted leave of absence for six days from Jan. 25, 1904, under Paragraph 191 of the Regulations.

McClintic, T. B., asst-surgeon, granted leave of absence for six days from Jan. 25, 1904, under Paragraph 191 of the Regulations.

Foster, S. B., A. A. surgeon, granted leave of absence for ten days from January 17.

Schug, F. J., A. A. surgeon, granted leave of absence, Dec. 22, 1903, to Jan. 5, 1904, on account of sickness.

Walker, R. T., A. A. surgeon, leave of absence granted for twenty days from Jan. 13, 1904, revoked.

Allen, G. C., pharmacist, on being relieved from temporary duty at Louisville, Ky., by Pharmacist G. O. Ferdinand, to rejoin station at New Orleans.

Holt, E. M., pharmacist, relieved from duty at Louisville, Ky., and directed to proceed to Washington, D. C., and report at Bureau for temporary duty.

Ferdinand, G. O., pharmacist, to proceed to Louisville, Ky., and report to the medical officer in command for duty and assignment to quarters.

### BOARDS CONVENED.

Board convened at Washington, D. C., Jan. 25, 1904, for the physical examination of officers for promotion and applicants for admission to the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon General W. J. Pettus, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at Washington, D. C., Jan. 26, 1904, for the physical examination of such officers of the Revenue-Cutter Service and applicants for admission thereto as may present themselves. Detail for the board: Asst.-Surgeon-General L. L. Williams, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at the Marine Hospital, Port Townsend, Wash., Feb. 1, 1904, for the physical examination of an office of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon N. H. Foster, recorder.

### PROMOTIONS.

Asst.-Surgeons W. C. Billings, J. W. Kerr and G. M. Corput commissioned as P. A. surgeons, to rank as such from Dec. 29 and 31, 1903, and Jan. 6, 1904, respectively.

### APPOINTMENT.

Ferdinand, George O., of New York, appointed pharmacist of the third class.

## Health Reports.

*The following cases of smallpox, yellow fever, plague and cholera* have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended Jan. 29, 1904:

### SMALLPOX—UNITED STATES.

California: Berkeley, Dec. 31-Jan. 7, 1 case; Los Angeles, Dec. 26-Jan. 2, 1 case; San Francisco, Jan. 10-17, 2 cases.

Colorado: Colorado Springs, Jan. 8-16, 1 case; Denver, Nov. 28 Dec. 26, 9 cases.

Illinois: Cairo, Jan. 21, 4 cases; Jan. 16-23, Chicago, 2 cases; Danville, 4 cases.

Indiana: Evansville, Jan. 16-23, 2 cases.

Louisiana: New Orleans, Jan. 9-16, 4 cases, 3 imported.

Maine: Jan. 21, Smithfield, 1 case; Stacyville, 11 cases.

Maryland: Baltimore, Jan. 16 23, 1 case.

Michigan: Jan. 16-23, Detroit, 2 cases; Grand Rapids, 1 case; Port Huron, to Jan. 23, 3 cases.

Missouri: St. Louis, Jan. 9 23, 21 cases.

New Hampshire: Jan. 16-23, Manchester, 2 cases; Nashua, 1 case.

New Jersey: Jan. 16-23, Plainfield, 1 case imported; Trenton, 8 cases.

New York: Buffalo, Jan. 8-23, 4 cases; New York, Jan. 16-23, 5 cases, 1 death.

Ohio: Bucyrus, Jan. 8-23, 22 cases; Jan. 15-22, Cincinnati, 5 cases, 1 death; Cleveland, 3 cases; Dayton, Jan. 16-23, 5 cases.

Pennsylvania: Jan. 16-23, Allentown, 1 case; Johnstown, 1 case, 1 from suburban district; Philadelphia, 106 cases, 13 deaths; McKeesport, 5 cases; Reading, 4 cases; Titusville, 1 case; Williams port, 4 cases.

South Carolina: Charleston, Jan. 16-23, 3 cases.

Tennessee: Nashville, Jan. 16-23, 3 cases.

Utah: Salt Lake City, Jan. 8-16, 7 cases.

Wisconsin: Milwaukee, Jan. 16-23, 19 cases.

### SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Dec. 19-26, 8 cases.

Brazil: Pernambuco, Dec. 1-15, 15 deaths; Rio de Janeiro, Dec. 20-27, 40 cases, 40 deaths.

Canada: New Brunswick, Newcastle, Jan. 21, 1 case imported from Portland.

France: Paris, Jan. 2-9, 16 cases.

Great Britain: Jan. 2[illegible] case; Leith, 1 case; Liverpool, 1 case; Newc[illegible]ses; South Shields, 1 case; Sunderland, 7 cases [illegible] Jan. 8-15, 44 cases, 3 deaths; Nottingham, Dec [illegible]es, 1 death; Sheffield, Dec. 26-Jan. 2, 1 case.

India: Bombay, Jan. 15-29, 5 deaths; Karachi, Dec. 20-27, 2 cases, 1 death.

Italy: Catania, Dec. 31-Jan. 7, 1 death.

Mexico: City of Mexico, Dec. 13-Jan. 10, 4 deaths.

Russia: St. Petersburg, Dec. 26 Jan. 2, 31 cases.

Spain: Santander, Jan. 4-11, 8 cases.

Turkey; Smyrna, Dec. 20-Jan. 3, 11 deaths.

### YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 20-27, 3 cases, 3 deaths.

Jamaica: Kingston, Dec. 26-Jan. 9, 2 cases, 2 deaths.

Malta: Dec. 26-Jan. 2, 4 cases, 1 death.

Mexico: Merida, Jan. 3-16, 1 case, 1 death; Vera Cruz, Jan. 8-16, 2 cases.

Venezuela: Maracaibo, Dec. 20-27, 1 case, 1 death.

### PLAGUE—UNITED STATES.

California: San Francisco, Jan. 10 13, 3 deaths.

### PLAGUE—INSULAR.

Hawaii: Honolulu, Jan. 10, 1 death.

### PLAGUE—FOREIGN.

Brazil: Pernambuco, Nov. 15-Dec. 15, 9 deaths; Rio de Janeiro, Dec. 20-27, 9 cases, 3 deaths.

India: Bombay, Dec. 15-20, 120 deaths; Karachi, Dec. 20-27, 7 cases, 6 deaths.

Mauritius: Dec. 24-31, 53 cases, 29 deaths.

CHOLERA.

Java: Batavia, Dec. 5-12, 14 cases, 3 deaths.

Turkey in Asia: Diarbekir, Dec. 15-20, 53 cases, 28 deaths; Hitt, Dec. 13-15, 8 cases, 4 deaths; Kerbela, Dec. 13-20, 447 cases, 443 deaths.

## Medical Organization.

### California.

Pasadena Medical Society.—At the annual meeting held January 19 the Pasadena Medical Society formally dissolved to become the Pasadena branch of the Los Angeles County Medical Society. Dr. Fitch C. E. Mattison was elected chairman; Dr. John E. Janes, clerk, and Dr. Charles D. Lockwood, councilor.

### Indian Territory.

Greater McAlester Medical Society.—Physicians of South McAlester and its vicinity met in South McAlester, January 22, and organized a medical society, appointed a committee to draft a constitution and by-laws, and elected the following officers: Dr. Eben N. Allen, South McAlester, president; Dr. Frank L. Watson, Alderson, vice-president, and Dr. Le Roy Long, South McAlester, secretary and treasurer.

### Massachusetts.

North Berkshire Medical Association.—This association has so amended its by-laws that graduates of all regular medical schools are eligible to membership.

### New Hampshire.

Carroll County Medical Association.—A meeting of the society was held at Sanbornville, January 19, at which the society reorganized on the standard plan, adopted a new constitution and by-laws, and elected the following officers: Dr. W. S. Davis, Sanbornville, president; Dr. Pearl J. Haskell, Sanbornville, vice-president; Dr. Ervin W. Hodsdon, Centerville, secretary; Dr. Nathaniel H. Scott, Wolfboro, treasurer, and Drs. J. W. Dearborn, Maplewood, and Stillman P. Getchell, Wolfboro, delegates to the state society.

### South Dakota.

State Fully Organized.—South Dakota is now organized according to the plan suggested by the American Medical Association, with the difference that in place of the county societies the state is divided into nine districts, with the same powers and duties as the county societies. All of the district societies are now organized, and the membership of the state society has more than doubled in the past year.

First (Aberdeen) District Society.—This society, which has been in active work for about fifteen years, at its last meeting, held in Aberdeen, January 19, abandoned its old constitution and by-laws, and adopted those recommended by the American Medical Association. It now has a membership of 62 and holds meetings on the third Tuesday of alternate months. The following officers were elected: Dr. Charles B. Mallery, Aberdeen, president; Dr. Lynn A. Pickering, Warner, vice-president; Dr. Henry J. Rock, Aberdeen, secretary, and Dr. Robert D. Alway, Aberdeen, treasurer.

## Society Proceedings.

### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Ninety-Eighth Annual Meeting, held in Albany, Jan. 26-28, 1904.*

The President, Algernon T. Bristow, M.D., Brooklyn, in the Chair.

### THE ADOPTION OF THE UNION PLAN.

### President's Inaugural Address.

On Tuesday, January 26, the society was called to order and addressed by the President, Dr. A. T. Bristow. He said that 673 delegates and 462 members, or 1,135 persons, constituted the present membership of the state society. The total membership of the county societies was 5,680. It was estimated that the membership of the consolidated state medical organizations would be 5,700. He discussed other society matters, and called attention to the desirability of issuing a monthly journal instead of the annual transactions. He urged the part that the profession should have in the great medical problems before the state, and closed by emphasizing that the long-sought opportunity for union of the profession in New York was here.

### Report of the Committee on Consolidation.

Dr. Henry L. Elsner, Syracuse, read this most important report. It was very long, but was listened to with great interest. As we stated last week, it detailed the steps of the attempt at harmony, gave the means by which it had been brought so near, and included the new constitution. The report was also circulated in printed form.

### Dr. Jacobi's Address.

Dr. A. Jacobi, New York, chairman of the Joint Committee, then made an address in which he moved the adoption of the report. He urged all to catch the spirit of the hour, and seize this great opportunity to restore harmony to the ranks of the profession in this state. He spoke as follows:

"The report of the chairman of your Committee of Five encloses the work of the Joint Committee of Ten. As its chairman, I rise to add a few remarks to the complete historical review you have listened to. I do so with the expression of the most intense gratification, for it has never been my lot to assist at the labors of any body of men more engrossed by their work than has been this committee laboring for the consolidation of the two large state bodies.

"The report before you gives no idea of the time and efforts required by the task entrusted to this committee. At first it seemed we had plain sailing. Nothing appeared to be simpler than to consolidate two corporations eager to be consolidated. A large amount of detail work was expected, but the enthusiasm exhibited in the association and in the special October meeting of the medical society promised an easy fulfillment of our common intentions and wishes. There was perfect harmony. There never was an allusion to past difficulties, controversies or animosities; nor was there during the many and protracted meetings a single minute disturbed by the rumors spread now and then of alleged attempts at thwarting the will of the profession as represented in the joint committee. Its two halves worked with equal zeal. Naturally, the actual work could not be equally divided; without invidious discrimination, therefore, the chairman wishes to thank two members for the unusual amount of labor cheerfully undertaken and successfully carried out, namely, the chairman of your Committee of Five, Dr. Elsner, and the secretary of the joint committee, Dr. Wisner R. Townsend. Nor should I pass by the uninterrupted and unselfish aid unofficially given by our president, Dr. Algernon T. Bristow, and our legal counsel, Mr. Howard van Sinderen, without whose indefatigable coöperation and fertile resourcefulness we should have stranded many times. In connection with this statement, I wish it to be understood that whatever has been done by your committee, whatever has gone before the legislature, or has been presented to you, has been scrutinized, suggested, criticised or created by him.

"The legislature has not been slow in appreciating and rewarding the efforts of the medical profession in behalf of its unification. Those of us who lived in by-gone times and participated in the work of this society are aware that it took years of strenuous effort and persistent persuasion to convince legislators of the importance and general usefulness of state boards of examiners, of increased requirements for the matriculation in medical schools, etc. When at those different times we approached the legislatures we were always confronted with the reproach that the medical profession was no unity; that what one wanted the other opposed, and with the fact that legislators declared themselves unable to decide a question in regard to which medical men were not of one mind. We were told many times that if and when the medical profession came before the legislature as a united body with demands either in its own or the people's interest—both, as a rule, being identical—there would be no delay in complying with its wishes. That promise has been made good. Within a week the permissive bill asking for consolidation has been passed through the senate and the assembly, and signed by the governor. Our thanks are due to the kindly services of the Hon. Nathaniel Elsberg, and his and our friends in the senate and assembly, and the Governor, the Hon. B. B. Odell. Evidently there is no power in the land that would care to evade, or to disapprove, or claim a just ground to withstand the reasonable demands of the 11,000 physicians of the Empire State when united for a common purpose.

"The legislatures of the future will be glad to know that whenever a bill will arrive that is voiced by the united profession and deals with the sanitary, educational and other vital interests of the people of the state, they are safe in passing it. The mature judgment of the profession has not easily been mistaken. Indeed, whatever progress has been made in the scientific and moral evolution of the medical profession has been accomplished by the combined efforts of its rank and file, without the co-operation, and frequently against the opposition, of some medical schools or of alleged and self-complacent leaders. That is as it should be in a profession which is imbued with the democratic principles of the commonwealth, and with the consciousness of its predominant weight in the determination of the most vital interests of mankind.

"From the report read you learn that the consolidated medical profession will bear the time-honored name of the Medical Society of the State of New York; that its seal will be preserved: its continuance not interrupted, and the individual rights of members enhanced. There will be no privileged class of almost five hundred permanent members, some of whom have even lost their membership in county societies, and no danger from a possible predominance of such an aristocratic class. The house of delegates will count at least 150 members, in place of the nominating committee of nine. It can not elect its own members into offices. It is controlled by the referendum, which means an appeal to the total membership of the society in any doubtful or contested case. It takes the place of Congress in our political commonwealth. To it are referred legislation and administration, and it is renewed by annual election in the county societies according to the number of assembly districts, with this proviso, that every county society has at least one delegate. By being the legislative body, it leaves the meetings of the society free for its scientific work. The constitution and by-laws, formed under the eyes of legal authority, are safe from interference, and are subject to changes by the majority vote of the medical society.

"This is what is proposed for your adoption. Other points are referred to the future vote of the combined societies, so the question whether there shall be in the by-laws an ethical clause, whether the directory or journal or transactions shall be continued or not and the amount of dues. All this will be left for your five or six thousand votes to decide.

"You who met here as delegates or permanent members are in as momentous a position as any that the medical society was ever placed in during the century of its existence. Unification has been the demand of the vast majority of the profession of our state so long that it has become practically unanimous. Not of the state alone, however. The profession of the United States is listening to your verdict of this morning. While it is our pride that this is so, and that on our resolution the fate of the country's profession may depend—to know that the eyes of our brethren all over this broad land are on us this very moment, adds to our responsibility. Never was there during the life of this society a better opportunity for the display both of wisdom and of patience.

"It is admitted on all sides that both patience and wisdom are demanded more on the part of the medical society than of that of the association. The latter's organization is simpler and, being younger, it is not beset with old, in part contradictory, often repealed, frequently only half repealed laws extending over a hundred years. The autonomy of the county societies, which the joint committee has been anxious to preserve, unless wisely exercised, creates a difficulty. As their ratification of the new constitution and by-laws is demanded as a matter of course, their common sense, patience, wisdom and patriotism are required to a high degree. They will consider that laws are not made forever; they are not the masters of man, but the expression of their will as modified by time, usages, and changed necessities. Even the sacred constitution of the United States had to be modified by the modern requirements of the sons and grandsons of its makers. That is why it is recommended that if there be any points in the proposed constitution and by-laws displeasing one or the other, you are still safe in adopting them all. There are six thousand of us, and there will be more. Every year your constitution and by-laws may be altered if you deem proper. Your delegates will change, and your referendum is more powerful than any house of delegates. What we are after is union. More than once a member of your joint committee got up to say: 'We have been sent here to harmonize and to unify and to consolidate. We can not return to our masters and tell them we have missed our opportunities to execute their will. I still hear the ring of enthusiastic applause when the unanimous vote calling for unity brought a tear to many an eye. And unity it shall be.' I never heard the duties of sound citizenship expressed more emphatically.

"After unification, we shall be satisfied that nothing will ever sever us again. For there will never again be a diversity of principles like twenty-two years ago. There will be a common faith, aim and altar. We shall take in the medical brotherhood the place which belongs to us, and work for the ideals, scientific, moral and practical, such as no other profession can realize, together with our peers all over the Union. We must or need split up into parties nevermore. To the undivided and indivisible body medical the American people will look for authoritative guidance in matters of sanitation, education and forensic legislation. What a Greek sage demanded should and may become true, viz., that the commonwealth will be advised and ruled by the physician. It is in this spirit that I appeal to you not to miss this opportunity of initiating for our glorious profession an epoch of fraternity, vastly increased usefulness and almost ideal possibility for benefiting ourselves, our brethren, and numerous millions. I appeal to you as one of your oldest members who has stood by you in prosperity and distress, in peace and war; and long and lately as a friend of reconciliation and union of the two great medical bodies of the state. The confidence both of your own committee and that of the association has permitted me to preside over their long and laborious deliberations. That is why I feel I have a right to represent in this solemn hour the whole profession of the state in its anxious longing for consolidation, not as an officer, or a delegate, but as a peer among peers. That is, Mr. President, why I have risen to move the adoption of the following resolution:

*Resolved*, That the report of the Joint Committee of Conference be accepted and that the proposed agreement for the consolidation of the Medical Society of the State of New York and the New York State Medical Association be and the same is hereby approved, and the president of the society is hereby authorized and directed to execute the same in the name and behalf of the society, and the secretary is hereby authorized and directed to affix the corporate seal thereunto; and be it further

*Resolved*, That the committee of the society heretofore appointed for the purpose of bringing about the consolidation, namely, Dr. Henry L. Elsner, Dr. A. Jacobi, Dr. A. Vander Veer, Dr. George R. Fowler and Dr. Frank Van Fleet, be and they are hereby continued as such committee, with full power and authority to do whatever may be necssary to carry the agreement into effect.

The motion of Dr. Jacobi was seconded by Dr. D. B. St. John Roosa, and following him, Drs. William Warren Potter, Willis G. Macdonald and Roswell Park spoke in favor of the motion, and urged unanimous action. The resolutions were then enthusiastically adopted without a dissenting vote. It was then ordered that the report of the committee be printed and a copy sent to each member.

## THE SCIENTIFIC PAPERS.

The papers read at this meeting were of a high quality. There were three subjects on which there were symposiums, diabetes, nephritis and abdominal pain, and on which there was valuable exchange of opinion.

### Symposium on Diabetes.

**Dr. R. M. Pearce**, Albany, discussed the pathology of diabetes, and was of the opinion that all forms of diabetes were not due to disease of the pancreas.

### Physiologic Chemistry of Diabetes.

DR. DAVID EDSALL, Philadelphia, discussed the various theories. He thought there was much to be learned concerning the nature of different varieties of sugar. In diabetes there might be a defect in glycogen construction or an excessively rapid conversion of glycogen into sugar.

### Medical Treatment of Diabetes.

DR. WILLIAM H. THOMSON, New York, was averse to prescribing the opium derivatives in diabetes, firmly believing that no permanent good could possibly follow the use of medicines of this class. He had for many years made use of cod liver oil, and had found it very beneficial except in the obese form or in those leading a very sedentary life. Arsenic was also useful. In severe cases, he began by giving 15 grains each of antipyrin and benzoate of sodium four times a day, changing after a time to 15 grains of aspirin and 10 grains of bismuth salicylate. Alkaline waters were often useful, but if used freely for a long time they would hasten emaciation.

### General Management of Diabetes.

DR. F. C. SHATTUCK, Boston, said that the diet should be regulated, not only as to the articles of food, but as to the quantity of each. In the milder cases, after one or two months of a strict diabetic diet, it might be proper to cautiously test the patient's ability to take starch, but a much longer time would be required in more severe cases. If diacetic acid and acetone were present in the urine, a radical change in the diet would be dangerous. The diabetic should be warmly clad, and while having rest of body and mind should have a moderate amount of exercise.

### The Occurrence of Diabetic and Non-Diabetic Glycosuria in the Same Individual.

DR. HEINRICH STERN, New York, read this paper. His conclusions were: (1) The diabetic state may be established before glucose is excreted by the urine: (2) glycosuria is a symptom of many other disturbances, both ectogenous and endogenous; (3) with the aid of other disturbing factors it is possible to differentiate between the diabetic and non-diabetic form; (4) duplex mellituria is the result of two concurrent or intercurrent affections of dissimilar character, having glycosuria as the one symptom in common, and (5) duplex mellituria depends on the alternate prominence of one set of symptoms, including glycosuria.

### Addresses by Drs. Bristow and Hadley.

Tuesday evening two excellent addresses were given. The president's annual address, by Dr. Algernon T. Bristow, Brooklyn, was on "The Present Status of the Medical Expert," and clearly laid the burden of the present medicolegal difficulties on the legal profession. This address will appear in THE JOURNAL shortly.

The other address, on "Conflicting Claims of General Education and Professional Education," by Arthur T. Hadley, LL.D., president of Yale University, is given elsewhere in this issue.

### Officers Elected.

The following officers were elected: President, Dr. Hamilton D. Wey, Elmira; vice-president, Dr. Joseph D. Bryant, New York; secretary, Dr. Frederic C. Curtis, Albany; treasurer, Dr. O. D. Ball, Albany.

The society voted in favor of holding semi-annual scientific meetings successively in Buffalo, Rochester, Syracuse and New York.

*(To be continued.)*

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## THE BALTIMORE TUBERCULOSIS EXPOSITION.

*Held at McCoy Hall of the Johns Hopkins University, Jan. 25-30, 1904.*

This great exposition, described by some as the greatest presentation of the subject ever given, was held under the joint auspices of the Tuberculosis Commission of Maryland, the State Board of Health of Maryland, and the Maryland Public Health Association. It was illustrated by charts, photographs, diagrams, models, instruments, tests, pathologic specimens, lectures, etc., and covered the history, distribution, varieties, causes, cost, prevention and cure of tuberculosis.

### The Addresses.

The formal opening was held at 8:15 p. m. January 25, when addresses were delivered by Governor Edwin Warfield, by Hon. Robert McLane, mayor of Baltimore; by Prof. William Osler, and by Mr. Frederick Hoffman of Newark, N. J. The governor highly commended the unpaid work of the Tuberculosis Commission, of which Dr. William S. Thayer is president, and spoke of the exposition as "the clinical and supplementary report of the commission." He promised that he would "gladly co-operate in the measures proposed." The mayor urged personal work and the receiving of appropriations from the legislature. Dr. Osler spoke of the apathy of the citizens, from which it seemed almost hopeless to arouse them. Mr. Hoffman, who is the actuary of a large life insurance company, spoke from large statistics. He assigned ten specific reasons for the marked but gradual reduction in the death rate from consumption in the last fifty years, viz.: The vast and far-reaching improvements in the housing of the population of large cities; the vast improvements in the direction of providing tenements and dwellings with more light and better ventilation; the diminution in the evils of overcrowding; the improvement in the morals of the people, making for a lesser degree of gross intemperance; improved methods of feeding of infants and adults with food of more nutritious quality, making for the building of a body of a higher degree of disease-resistance; improved economic conditions, especially in the direction of higher wages and shorter hours of labor, substituting possibilities of rest and recreation for overstrain and bodily exhaustion; the prohibition of child labor at early ages, making for constitutions better able to withstand the inherent disease-producing conditions of factory life; far-reaching improvements in the sanitary conditions of factories as the result of systematic factory inspection and an intelligent public health administration; improvements in school hygiene providing for children at the critical-age period more room, more light and better ventilation than was formerly the case; and, finally, a tendency toward a higher standard of life and a more deliberate view of life and the value and worth of living. The decrease in the death rate from consumption in American cities was from 32.5 per 10,000 in 1871 to 19.2 per 10,000 in 1900. Mr. Hoffman then went on to speak of race, marriage, occupation, religion, etc., and showed how all these were concerned in the prevalence and mortality of consumption. The high mortality of the colored race, which is 49 per 10,000, to 17 per 10,000 in the whites, was dwelt on, and is not to be explained solely by unfavorable surroundings, but is due to racial differences, to a less vigorous vital resistance on the part of the negro. The native population of native stock shows the lowest mortality from consumption, while the Irish show the highest. From 15 to 34 years, one-third to one-half of the total mortality is from consumption. Many interesting points were brought out with reference to marriage, occupation and religion.

The second day's address was made by Dr. Lawrence F. Flick of the Phipps Institute, Philadelphia, who spoke on "House Infection of Tuberculosis." He laid great stress on the house as an agent of infection, and said that practically contagion is limited to it. In proper house disinfection is to be found the key to the entire problem of stamping out tuberculosis.

On the third evening the addresses were by Dr. Mazyck P. Ravenel of the University of Pennsylvania and Dr. D. E. Salmon, chief of the Bureau of Animal Industry, Department of Agriculture, Washington, D. C. With reference to transmission from man to cattle, Dr. Ravenel said this was first proven in 1868 by Chaveau, who selected only animals from the Jura Mountains, where the disease was unknown. Direct experimental evidence of transmission from cattle to man is wanting, but several such cases had occurred under his observation from accidental inoculation, some ending in general infection and death. Transmission by injection of tuberculous meat, however, is difficult to prove, as we can not exclude all other sources of infection. Yet the evidence of this is as good as in cases which we admit to be by inhalation. The bovine organism has also been found in the intestines of children dead of intestinal tuberculosis. The chief difference between the bovine and human bacillus is their relative virulence, this being vastly greater in the former. We are justified in saying that bovine tuberculosis is transmitted to the human race, chiefly to infants, in a certain, at present undeterminable, proportion of instances and is, therefore, a menace to public health. Dr. Salmon gave the results obtained on this subject by himself and assistants in Washington.

The fourth day's address was made by Dr. S. A. Knopf of New York, who said that consumption is curable by pure air, pure food and pure water; that it is not hereditary and that it is communicated by inhalation, ingestion and inoculation. He showed several forms of spittoons. He spoke of the danger of kissing, putting fingers and pencils in the mouth, and expectorating on the floors. Dr. Knopf continued with many practical suggestions, and urged that philanthropists could find their best opportunities for doing good in this field.

The fifth day's address was by Dr. George Adami, Montreal, on "Facts, Half Truths and the Truth about Tuberculosis." He pointed out the difference between many popular conceptions and the real facts as regards this great scourge.

On the sixth day Professor Welch spoke, and Dr. Charles H. Potter gave demonstrations with the lantern of the pathology of tuberculosis. A similar demonstration by Dr. Huber of New York concluded the exposition in the evening.

### The Exhibit.

The exhibit was held in the corridors, in a room opening into these and in the lower part of the large McCoy Hall. Statistics were much in evidence, nearly 100 charts being shown. Many of the facts brought out in the address of Mr. Hoffman were here graphically exhibited. The relations of factory, tenement and sweat shops to tuberculosis were next shown, and the conditions prevailing in Baltimore, New York, Boston, Chicago, etc., were pointed out by photographs.

Especially valuable was the exhibit of prophylactic measures employed by state and municipal boards of health. Pictures of sanatoria and dispensaries, both native and foreign, illustrated the most modern and approved methods of treatment. There were many models of tents, one of the most observed being the Fisher tent, fully equipped for patient and attendant. This was pictured and described in The Journal, Dec. 26, 1903. Other models of tents were the Gardiner, from Colorado Springs and another which is used successfully on the health farm of the Young Men's Christian Association near Denver.

There was a series of photographs showing infected streets and houses in Baltimore; another set showed how in the treatment the colony idea, the roof garden, the fire escape, the veranda could be converted to the use of the consumptive. The committee on Home Treatment and House Hygiene exhibited a model room furnished in all its details, and near this was an exhibit made by the Visiting Nurse Association. A large collection of books and portraits was shown in glass cases illustrating the history of tuberculosis from the earliest times down to the present.

The pathologic section consisted of specimens of tuberculous tissues and organs in man and animals, wax casts, etc., derived from the Army Medical Museum and from the museums of the University of Maryland, the Johns Hopkins Hospital, the Baltimore College of Physicians and Surgeons, and the city and state health departments.

A large map had been prepared by the health board, showing all the houses in which there has been a death from tuberculosis in the 10 years from 1890 to 1900. Each of these 11,582 deaths is indicated by a red dot. "Lung block," the worst area, consisting of two squares crowded with negroes, shows 175 deaths. The sweatshop pictures were very impressive. Among the institutions, etc., exhibited were the health departments of Chicago, New York City, Baltimore and Boston; Loomis Cottage Sanatorium, New York; Muskoka Sanitarium, Canada; Massachusetts State Sanatorium; Sharon Sanatorium; Stoneywold Sanatorium; Blackwell's Island Hospital; National Sanatorium, Canada; Bedford Sanatorium, etc. The "City Hall and Court House Sputistics" of Dr. Fulton were original and suggestive.

Sufficient to say, the exposition, unique in its way, was a perfect success. Crowds of people thronged the corridors during the entire week, hundreds stood during the lectures and hundreds were turned away unable to gain entrance to the large hall. Such an outpouring of people was remarkable and unexpected, and the attention, interest and enthusiasm with which they listened to the speakers and minutely examined the exhibits gives the greatest encouragement.

The arrangements were admirable. Dr. Fulton and his assistants were always at hand to pilot the crowds and visitors about and explain everything to them.

Many physicians and sanitarians from all parts of the United States and Canada were in attendance.

### Action on Tuberculosis Congresses.

At a conference held in McCoy Hall on the evening of January 28, presided over by Prof. William H. Welch, Baltimore, at which a number of representative physicians interested in the study of tuberculosis from various parts of the country were present, the following motion made by Dr. H. M. Bracken of St. Paul, Minn., and amended by Dr. William S. Thayer, Baltimore, was unanimously adopted: "Moved that the chair be authorized to appoint a committee with power to act, to consider the conditions existing with regard to the proposed tuberculosis congress and other national antituberculosis associations in the United States, also to consider the formation of a national committee to represent this country at the International Congress at Paris, and that the members of this conference will abide by the action of the committee—also that this committee have power to add to its membership."

In accordance with this motion, Prof. William H. Welch appointed the following gentlemen to this committee: Dr. William Osler, Baltimore; Dr. Edward L. Trudeau, Saranac Lake, N. Y.; Dr. Theobald Smith, Boston; Dr. J. G. Adami, Montreal, Canada; Dr. Vincent Y. Bowditch, Boston; Dr. S. A. Knopf, New York City; Dr. Mazyck P. Ravenel, Philadelphia; Dr. Arnold C. Klebs, Chicago; Dr. Edward G. Janeway, New York City; Dr. Henry Barton Jacobs, Baltimore; Dr. H. M. Bracken, St. Paul, Minn.; Dr. Lawrence F. Flick, Philadelphia; Dr. Herman M. Biggs, New York City.

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# Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

### Rhus Toxicodendron Poisoning.

The following combination is recommended by *Med. Pharm. Critic and Guide* in the treatment of ivy poisoning:

| | | | | |
|---|---|---|---|---|
| ℞. | Sodii hyposulph. | ℥i | 30 | |
| | Menthol | gr. v | | 30 |
| | Alcoholis | ʒi | 4 | |
| | Spts. etheris nitrosi | ℥i | 30 | |
| | Aq. destil. q. s. ad | Oi | 500 | |

M. Sig.: Apply locally with a soft sponge or on sterilized gauze.

### Formaldehyd.

Wainwright, in *Med. Mirror*, in speaking of formaldehyd as an antiseptic, germicide, disinfectant and deodorizer, states that the 40 per cent. solution, formalin, in 1-32,000 dilution preserves milk for several days; 1-25,000 strength is useful as a douche in leucorrhea; 1-3,200 for rinsing dairy cans:

1-2,000 for rinsing vessels intended for liquids liable to fermentation; 1-500 for irrigations of catheters and for mouth wash; 1-250 as a general disinfectant, solution for washing the hands, instruments, spraying sick-rooms, and as a deodorant. In the treatment of lupus, psoriasis and other skin diseases, it should be used in strength of 1-100.

The author also recommends formaldehyd in the treatment of hyperidrosis of the feet, in whooping cough and diphtheria, using a vapor or spray of 1 per cent. strength in the latter diseases. It is also of service in relieving the conditions in atrophic rhinitis and ozena, using it in dilute solutions applied locally after the application of cocain to the mucous surfaces. In the treatment of carcinoma of the cervix, with fetid discharge and severe hemorrhage, a 20 per cent. solution acts as a hemostatic, diminishes the discharge, fetor and pain. In cases of pharyngitis and tonsillitis, it is of value combined in diluted strength with glycerin. In chronic otorrhea, the ear may be syringed out daily with a formalin solution in the proportion of one dram to the pint (4.-500). As antidotes to formalin in cases of poisoning when given internally, a few drops of aqua ammoniæ well diluted, aromatic spirits of ammonia or liquor ammoniæ acetatis have proved to be very efficient.

### Creosotal in Croup.

Lazansky, in *Med. Council*, recommends the following combination containing creosotal in the treatment of croup contracted by children between the ages of five and ten years:

| | | | | |
|---|---|---|---|---|
| ℞. | Creosot. | gr. xlv-ʒi | 3-4 | |
| | Liq. ammon. anis. | m. xv | 1 | |
| | Syr. senegæ | ℥ss | 15 | |
| | Infus. ipecac. rad. | ℥iss-℥iii | 45-90 | |

M. Sig: One teaspoonful every hour until fever diminishes, then every two to three hours.

### Empyroform.

Skarlek, according to an abstract in *Amer. Med.*, has found empyroform to be beneficial in the treatment of eczema. It lessens the itching, has marked drying properties, and is non-irritant. It is useful in all stages of eczema. He employs the following combination:

| | | | | |
|---|---|---|---|---|
| ℞. | Empyroform | | | |
| | Pulv. amyli, āā | ʒvi | 24 | |
| | Liq. petrolati | ℥iss | 45 | |

M. Ft. unguentum. Sig.: Apply locally.

Empyroform is a combination of tar and formaldehyd. It is a brown powder with tar-like odor, insoluble in water but soluble in caustic alkalies and chloroform and liberates formaldehyd when heated.

### Pertussis.

The following combination is recommended by J. S. Howard, in *Med. Council*, in the treatment of whooping-cough:

| | | | | |
|---|---|---|---|---|
| ℞. | Acidi nitrici dil. | ℥i | 30 | |
| | Tinct. card. co. | ʒiii | 12 | |
| | Syrupi simplicis | ℥iiiss | 100 | |
| | Aquæ | ℥i | 30 | |

M. Sig.: One small teaspoonful every two hours.

The foregoing is especially recommended in infants, who have been exposed to the disease, as a prophylactic measure.

### Broncho-Pneumonia.

The following combinations are recommended in *Clin. Ther.*, in the treatment of catarrhal pneumonia:

| | | | | |
|---|---|---|---|---|
| ℞. | Ammonii chloridi | gr. lxxx | 5 | |
| | Syr. scillæ | ʒiii | 12 | |
| | Liq. ammon. acetatis q. s. ad | ℥iv | 120 | |

M. Ft. mistura. Sig.: One dessertspoonful in water every three to four hours.

One or two drops of the tincture of aconite may be added to each dose of the foregoing, carefully watching its effects; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Ammon. carb. | gr. xlv | 3 | |
| | Mucil. acaciæ | | | |
| | Syrupi simplicis, āā | ℥ss | 15 | |
| | Tinct. lavendulæ comp. | ʒii | 8 | |
| | Aquæ q. s. ad | ℥iv | 120 | |

M. Sig.: One teaspoonful in water every three hours to a child three years of age.

In cases where there is threatened respiratory failure the following may be substituted:

| | | | | |
|---|---|---|---|---|
| ℞. | Quin. sulph. | gr. xxiv | 2 | 60 |
| | Strych. sulph. | gr. 1/4 | | 015 |
| | Acidi hydrochlor. dil. | m. xv | 1 | |
| | Glycerini | ʒiii | 12 | |
| | Liq. pepsini q. s. ad | ℥iv | 120 | |

M. Sig.: One teaspoonful in water every three or four hours for a child five years of age; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Strych. sulph. | gr. 1/4 | | 015 |
| | Acidi hydrochlor. dil. | ʒi | 4 | |
| | Spts. chloroformi | ʒiv | 15 | |
| | Ext. cinchonæ liq. | ʒiii | 12 | |
| | Aquæ q. s. ad | ℥iv | 120 | |

M. Ft. mistura. Sig.: One teaspoonful for a child five years of age, every three or four hours.

### Enterocolitis.

A. Robin, in *N. Y. and Phila. Med. Jour.*, states that medication should be so directed as to render the gastric contents alkaline before being pushed on into the intestine. For such purposes the following combination is recommended:

| | | | | |
|---|---|---|---|---|
| ℞. | Calcii carb. precip. | | | |
| | Magnesiæ (calcined), āā | ʒiss | 6 | |
| | Sodii bicarb. | ʒi | 4 | |

M. Ft. chart. No. xii. Sig.: One after each meal.

Between the meals, to render the pain less, the following is advised:

| | | | | |
|---|---|---|---|---|
| ℞. | Lactose | gr. xv | 1 | |
| | Magnes. oxidi hydratis | gr. xxiiss | 1 | 50 |
| | Bismuthi subnit. | | | |
| | Cretæ prep., āā | gr. xii | | 75 |
| | Codeinæ | gr. 1/12 | | 005 |
| | Sodii bicarb. | gr. xv | 1 | |

M. Ft. chart. No. i. Sig.: As indicated to relieve the pain.

Milk alone is not recommended. The diet should include thin soups, bouillons, broiled or roasted meat without sauces, boiled fish and boiled vegetables. A glass of ale may be given once a day. Colonic flushings with boiled water should be given daily and very slowly with low pressure. Saline purgatives are contraindicated. Castor oil may be given in combination with extracts of belladonna and hyoscyamus. In some cases the following is preferable:

| | | | | |
|---|---|---|---|---|
| ℞. | Ext. aloes (Cape) | gr. xxx | 2 | |
| | Pulv. jalapæ | gr. xv | 1 | |
| | Res. scammonii | | | |
| | Res. cambogiæ, āā | gr. xv | 1 | |
| | Ext. belladonnæ | | | |
| | Ext. hyoscyami, āā | gr. iiss | | 15 |
| | Pulv. saponis, q. s. | | | |

M. Ft. pil. No. 1. Sig.: One to three pills at bedtime.

The author recommends cold compresses to the abdomen, and allowed to remain in place all night. Massage is also of benefit in these cases.

In prolonged painful paroxysms, avoid opium preparations and substitute cannabis indica as follows:

| | | | | |
|---|---|---|---|---|
| ℞. | Ext. cannabis indicæ | | | |
| | Ext. hyoscyami | | | |
| | Ext. belladonnæ, āā | gr. ss | | 03 |
| | Menthol | gr. iss | | 09 |
| | Alcoholis, q. s. | | | |
| | Syr. acaciæ q. s. ad | ℥v | 150 | |

M. Sig.: One tablespoonful every hour.

Locally the following liniment may be applied to the painful spots:

| | | | | |
|---|---|---|---|---|
| ℞. | Spts. chloroformi | ʒv | 20 | |
| | Ext. belladonnæ | | | |
| | Ext. hyoscyami | | | |
| | Ext. cannabis ind., āā | ʒi | 4 | |
| | Linimenti saponis | ℥iii | 90 | |

M. Ft. linimentum. Sig.: Apply locally as indicated.

### Tonics in the Convalescent Stage of Febrile Diseases.

The best general tonic after an acute illness, according to A. Caillé in *Post. Grad.*, is a change of air from the city to the country, from the mountains to the seashore, and vice versa. Diet and regulated digestion, exercise, massage baths and proper surroundings are of importance. The administration of dilute hydrochloric acid after meals will aid the digestion; and a normal digestion and nutritious diet will soon improve the composition of the blood. He recommends the following method of administering hydrochloric acid in such cases:

℞. Acidi muriat. dil. ......................ʒiv 15|
Sig.: Five to ten drops in sugar water after eating; or:
℞. Acidi muriat. dil.
Tinct. nucis vom., āā..................ʒii 8|
M. Sig.: Five to ten drops in sugar water after eating; or:
℞. Acidi muriat. dil. ......................ʒi 4|
Essentiæ pepsini ......................℥ii 60|
M. Sig.: One teaspoonful after eating, three times a day.

He recommends, before administering iron, arsenic, phosphorus or other drug tonics that the tongue be cleaned.

To improve the anemia he recommends the following combinations:

℞. Tinct. ferri muriatici ..................ʒi 4|
Elix. gentianæ comp. ..................℥ii 60|
M. Sig.: One-half to one teaspoonful three times a day; or:
R. Elix. calisayæ cum ferro et strych......℥ii 60|
Sig.: One half to one teaspoonful three or four times a day.

In such cases he also recommends the glycerophosphates and hypophosphites of iron.

Arsenic is of value given in the form of Fowler's solution, one to five drops (.06-.30) diluted in water *after meals.*

Phosphorus given in the form of Thompson's solution or elixir of phosphorus may be given to children in ten to twenty (.65-.13) drop doses in water three times a day.

## Medicolegal.

**Eighty Thousand Dollars for Personal Injuries.**—In International & Great Northern Railroad Company vs. Moynahan, a personal injury case brought by the latter party, an engineer, who was 38 years old, sound and earning $140 to $150 a month when injured, the Court of Civil Appeals of Texas holds that a verdict for $80,000 damages was warranted by evidence that he hovered between life and death for many months, suffering great agony, became a physical wreck, unable from his spinal injuries to move his head or preserve his balance naturally, was never without pain, was totally incapacitated for labor, one side was paralyzed, and his tendency was to grow worse.

**Injury to Practice and Use of Morphin by Wife.**—The Supreme Court of Georgia holds, in the case of Smith vs. Smith, that, in the trial of an action for divorce, brought by a husband against his wife on the ground of alleged cruel treatment, it is not error to reject evidence that she constantly quarreled with, abused and insulted her husband, and, by slandering him to her neighbors, injuriously affected his practice as a physician, etc. Nor is it error, in the trial of such a case, to reject evidence that the wife was an habitual user of morphin, and almost all of the time under its intoxicating influence.

**Transportation of Insane Persons.**—The Supreme Court of Georgia, which finds no authority directly in point, holds, in Owens vs. Macon & Birmingham Railroad Company, that the carrier can not absolutely refuse transportation to an insane person, but it may in all cases insist that he be properly attended, safely guarded, and securely restrained. And even where such precautions have been taken, it is not bound to afford him, if violent, transportation in the cars in which other travelers are being conveyed. And while there may be cases in which the convenience of other passengers should yield to the necessities of the unfortunate, the company may decline to receive one who at the time of entering the train exhibits signs of violence which indicate that his presence and conduct would tend to the manifest annoyance of others. So to do would ordinarily be better than to receive him on the promise of his attendants that he would be quiet, and, on the disorder continuing, force on the carrier the duty of deciding whether he should be ejected at a station where there might not be proper accommodations. Where, however, it becomes essential to transport one who, though violent and noisy, is not responsible for his actions, the company is entitled to seasonable notice, in order that it may make proper arrangements.

**An Inmate of a Hospital.**—In the case of Farrel vs. Security Mutual Life Insurance Company, the insured was asked if he had ever been an inmate of any hospital, and answered, "No." But it appeared that he had been admitted to a hospital, where he remained for from one to two weeks. A physician testified that he had visited him professionally, and suggested his removal to the hospital; that he went to the hospital, and examined him for twenty minutes to half an hour very carefully; that he was accepted at the hospital as his private patient. The physician further testified that he found nothing the matter with the man; that he made an entry of rheumatism *in order to qualify him* to be entered at the hospital, and that he ordered his removal to the hospital because he could give him better care, and under more satisfactory circumstances, than he would receive where he was. He explained that by better care he meant "better environment"—under better conditions—and that by "better conditions" he meant, "Well, if he touched a button he could have a servant come to his room any time day or night, or if he wanted a change of blankets, or a hot drink—any want could be attended to at once; that he sent him there to put him where he could get good bed and board." The United States Circuit Court of Appeals, Second Circuit, holds that, even if the question could be considered, as contended, as an inquiry whether the insured had been admitted to the hospital for medical treatment for disease, the uncontradicted evidence as to the circumstances under which he was taken there under advice of a physician as his patient, and the character of his occupancy, satisfied this requirement. And in view of the positive statements of the physician as to said facts the court would not have been justified in submitting the case to the jury on the theory of ambiguity or uncertainty because the witness said he sent him there simply "to get good bed and board." If this statement be not rejected as either palpably untrue or an unjustifiable conclusion of the witness, it must be so interpreted as to apply to the case of a patient who required the sort of treatment implied by better conditions, environment, and service.

## Current Medical Literature.

### AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### American Medicine, Philadelphia.

*January 23.*

1 *Acute Lobar Pneumonia: An Analysis of 486 Cases, and of 100 Autopsies. John McCrae, J. C. Fyshe and W. E. Ainley
2 *The Blood in Acute Leukemia. Louis V. Hamman.
3 *A Comparative Study of Fractures of the *Extremities.* M. I. Wilbert.
4 *Fracture-dislocation of the Spine. J. Shelton Horsley.
5 *Physical Overexertion and Its *Effects on* Health. John Knott.
6 *The Modern Treatment of Wounds. Walter Lathrop.
7 *A Bacteriologic Study of the Intestines of Fish. Edith Loeber.

1. **Pneumonia.**—This article is an analysis of cases as regards sex, *mortality, etiology, race,* occupation, previous disorders, use of alcohol, duration, course, complications, symptoms, etc., followed by an analysis of a hundred *autopsies. The* authors find the fatality of the disease very markedly increased after the age of 40, though the number of cases is much greater in younger subjects. *It is policy, however,* to make no prognosis on youth, as the average age of the patients who died was 37.7 years, while that of those that recovered *was* 35.5, showing a much less difference than one would suppose. It would also appear from these statistics that *immigrants,* at least in the climate of Montreal, are three times as liable as natives to the disease, and that the outdoor worker is much more frequently attacked. The question of the *liability* of alcoholics to pneumonia is complicated by other questions, so that it is impossible to give positive figures. In the majority

of cases the fever rises to 102 or 104, and in quite a proportion to over 104, in the early stages. Leucocytosis occurred in 43 out of 45 cases examined, and in the 11 patients who died there were from 9,800 to 50,000 leucocytes, but in 5 of these there were severe septic complications. It would appear that the extent of the disease had much to do with the fatality; the smaller amount of lung tissue involved, the more favorable prognosis. The treatment was varied. In 40 cases there was practically no treatment. Baths were used in 45 cases; expectorants given in one-third; medicinal analgesics, heroin, etc., in a tenth of the cases; ice and heat in one-fourth; stimulants in three-fourths, and venesection was performed in only one case. There seems to be a prevailing tendency to symptomatic treatment with ready recourse to stimulants. In 60 cases where bacteriologic examinations were made, 65 per cent. showed the presence of the pneumococcus, in 5 per cent. of which it was mixed with other organisms to the extent of being a mixed infection; 20 per cent. were mixed infections of other kinds, while the streptococcus was the main agent in 8 per cent. The infrequency of the rigor at onset is also notable in this series, as also the non-enlargement of the spleen, from which it appears that pneumococcus infection is less likely to be accompanied with this complication.

2. **The Blood in Leukemia.**—Hamman reports several cases with careful blood examinations and discusses the literature. He concludes that there are three types of leukemia, each associated with a typical clinical picture. Between the blood pictures and the clinical pictures there is every grade of transition. Leukemia running an acute course is nearly always associated with the blood picture described by Fraenkel. When the blood picture described by Fraenkel is observed, it is almost certain that the case will run an acute course. The presence of either of the other typical blood pictures is an assurance—however, not absolute—that the disease will run a chronic course.

3. **Fractures of the Extremities.**—Wilbert insists on the importance of joint involvement in fractures, and says too much stress can not be laid on caution in handling of the part in case of injury near the articulating surfaces of the bone. He thinks that while it must be admitted that the Roentgen rays do not indicate the exact nature of all primary injuries, if properly used they show all serious lesions of the osseous structure and in a number of cases will indicate the nature and extent of injury to the soft parts, particularly when the lesions involve the denser portion of the tendon. Precision and exactness of diagnosis without the risk of injuring the surrounding tissue are practically impossible without the use of the *x*-rays, and without this diagnosis treatment must be uncertain. He favors the more general routine use of this method of diagnosis.

4. See abstract in The Journal of January 2, p. 53.

5. **Over-Exertion.**—Knott protests against over-strain in physical exercise and its abuse as leading to sudden and permanent breakdown in later life.

6. **Wounds.**—From an experience with over 2,000 wounds of various kinds in the last four years, Lathrop concludes that in ordinary lacerated wounds, the first thing to do is to check the hemorrhage and carefully cleanse the parts. He prefers formaldehyd soap, 10 per cent. to begin with, followed by mercuric chlorid solution and sterile water. The lacerated skin is next trimmed where necessary and the wound converted into an incised one as nearly as possible. The severed tendons are united, the edges carefully sutured, and the injured member dressed with the usual sterile gauze and cotton—dusting powder applied where desirable. A splint may be used when immobility is indicated. The dressing should not be removed for several days unless a fever gives warning of sloughing or infection. In very extensive laceration, oozing must be provided for by a drainage tube or gauze. The ordinary wounds with knives, bottles, sharp edges, etc., require little more than careful suturing and sealing with thorough asepsis. Nearly all scalp wounds of this character may be sewed up and no further trouble experienced. Domestic remedies are responsible for much of the infection. He thinks the ordinary dirty poultice is one of the most important of these. The one great agent in combating infection, preventing it when suspected and checking it, is carbolic acid. If no pus is present he would use a 5 per cent. solution. In case of suppuration he would etherize, make a free incision, use hydrogen dioxid freely and follow with sterile water or salt solution; then mop the entire cavity out with pure carbolic acid and then wash with alcohol, apply the usual dressing and insert drainage if necessary. The patients, as a rule, do well under this treatment; the spread of infection is likely to be checked. If the septic process has invaded the system, the use of antistreptococcus serum is very valuable, in full dose of 10 c.c. repeated once or twice in twenty-four hours. He used it on himself in a severe attack of blood-poisoning, and has employed it in a number of bad cases with good results. In punctured wounds with a valve-like opening the wound should be freely opened to the bottom and cleansed. In gunshot wounds of the abdomen the only thing is immediate laparotomy and suturing up of the perforation. In gunshot wounds of the extremities the Roentgen ray is of help in locating the bullet. In wounds of the chest, provide drainage and wait for Nature to cure, unless there are clear and urgent reasons for operation. The same is true in wounds of the skull and brain, with rigid asepsis and the removal of all spicules of bone.

7. **Fish Microbes.**—Loeber has studied the intestines and made cultures from the perch, bass and suckers obtained from Cayuga Lake and its tributaries. She found an abundance of microbes, chiefly the *B. proteus vulgaris*, which was present in all. The *B. coli* was not found in a single instance.

### Boston Medical and Surgical Journal.

*January 21.*

8 *Clinical Lecture on Epithelioma at Massachusetts General Hospital. J. Collins Warren.
9 *The Prevailing Conception of Degeneracy and Degenerate, with a Plea for Introducing the Supplementary Terms Deviation and Deviate. G. L. Walton.
10 Cancer of the Rectum: Combined Abdominal and Perineal Operation. Charles A. Powers.

8. **Epithelioma.**—Warren describes the characteristics of the different varieties of epithelioma, the superficial types known as rodent ulcer, small-celled epithelioma and the polymorphonuclear-celled type characterized by larger cells with the characteristic nests such as are seen in cancers of the lip, back of the hand, penis, etc. The main part of his paper is devoted to the subject of rodent ulcer. He describes the process of keratosis senilis and reports a number of cases of rodent ulcer. He discusses the relative value of excision and *x*-ray therapy. In the early stages excision is advisable, but when the disease has become extensive and is rapidly spreading, the value of the *x*-ray is marked. The patient should be instructed to yield to the excision treatment, for that is possibly the best and will give reasonable prospect of permanent cure. He also pleads for a more radical operation for cancer of the lip, not only by a most liberal V-shaped incision, but the primary lesion should be dissected away in a continuous mass with the cervical glands and tissue occupying the triangle nearest the seat of growth. Incomplete, "ambulatory" operations, with cocain anesthesia, can not be too emphatically condemned.

9. **Degeneracy and Degenerate.**—Walton criticises the common use of the terms degenerate and degeneracy as signifying more than they ought in cases to which they are applied, and expressing opinions when simple facts are to be noted. Stigmata do not necessarily indicate deterioration, and it is a question whether a limited amount of them may not occur without lowering the mental or physical scale. Downward deviation is not the only type. He suggests the use of the term deviation as indicating variations from the normal, whether above or below or at the same level in the intellectual, physical, moral and other scales. It need not necessarily be limited to the lighter grades of variation. We may have the minor and major deviation, while the use of the word degeneration should be confined to marked downward tendency in the change.

### New York Medical Journal.

*January 23.*

11 *The Dietetic Value of Patented Foods. W. D. Halliburton.
12 *Hepatic Drainage in Infection of the Biliary Tracts. John B. Deaver.
13 *Sterile Water Anesthesia in the Office Treatment of Rectal Diseases. Samuel G. Gant.
14 *Puerperal Sepsis and Its Treatment by Iodin. William R. Pryor.
15 *Public Health and Food Preservatives. (To be continued.) R. G. Eccles.
16 *Some Investigations of a Bacterial Treatment of Tuberculosis. (Continued.) Stephen J. Maher.

11. **Patented Foods.**—Halliburton notices certain common errors in regard to patented or proprietary articles of food, calling attention to the untrustworthiness of mere chemical analysis in some of these cases, and the necessity of testing both *in vitro* and *in vivo*. While, for instance, pork is the most highly nutritious of all meats, the muscle fibers are so completely enveloped in fat that a great part of it passes through the body without having been acted on by the digestive fluids. Another instance is whole wheat bread, which shows a highly proteid content, more so than the ordinary white bread, but experience shows that it is less nutritive, the material of food value being so closely invested with cellulose as to materially hinder its being acted on by the digestive fluids. Another common error which he notices is confusion of nutritious and nitrogenous foods. While the nitrogenous are indispensable, it does not follow that the non-nitrogenous foods are not also essential. For example, when the nitrogenous portion of milk is separated it is not necessarily of the same value as when contained in the milk itself. The various widely-advertised farinaceous foods, he thinks, are more harmful to the child than altered milk. The child's alimentary canal is not capable of grappling with starch and still less with cellulose. Another class of foods in regard to which the chemist can enlighten the physician is that of meat extracts, which are simply stimulants rather than nutritive in their effect. The amount of nutritive content in the small quantity given is by no means comparable to that obtained in the unaltered article. The best way to get the benefit of a steak is to eat it. The class of food products whose claim for recognition is based on their contents of the results of proteolysis, and which are presented in the form of albumoses and peptones, are of real nutritive value in proportion to the amount of albumose and peptone that they contain, and may be of use where the digestive system is at fault. Often, however, a reasonable and legitimate idea is reduced to an absurdity by ignorance, such, for instance, as "peptonized beef tea." Beef tea contains nothing capable of peptonization. Chemists, he says, can combine with medical men in enlightening the public as to the real value of foodstuffs and as to the real meaning of nutrition.

12. **Hepatic Drainage in Biliary Infection.**—Deaver discusses the condition of biliary infection, and insists that infection of the liver and its ducts can be cured by surgical means. It is nearly always accompanied with gallstone formation, and likely to become perilous from common duct obstruction. Most patients, he thinks, who suffer from cholemia really die from infection, and not from the bile retention itself. Such a patient can be saved by drainage. He offers the following conclusions as justified in the light of present experience:

1. Suppurative cholangeitis should be operated on before the infection injures the liver cells and before the retained bile has a chance to react injuriously on the general organism. The presence or absence of gallstones is of no moment in deciding for early operation, though they are usually present.
2. Cholecystostomy is the operation of choice where the lesion is acute and the gall bladder has been functionating up to the time of infection.
3. Excision of the gall bladder can safely be performed in chronic calculous cholecystitis with an obstructed cystic duct.
4. Hepatic drainage must be provided for in all cases where infection is present or suspected; either through the gall bladder or by opening the common duct or the hepatic duct.
5. Abscess of the liver is prevented and pancreatitis relieved by prompt drainage of infected bile ducts.

13. **Sterile Water Anesthesia in Rectal Diseases.**—Gant has had good effects with sterile water injections for the production of local anesthesia in operations about the rectum. The temperature of the water is unimportant, though warm is preferable as being less uncomfortable. Sterile saline solution has been recommended, but has no special advantages. The injection is made into the skin and under it, so as to produce local distension before incisions are made. If the process has been properly carried out, the skin and underlying tissue can be incised without pain in almost every instance. He recommends it for eternal cutaneous hemorrhoids and for large internal venous or capillary hemorrhoids which can be anesthetized in thirty seconds by injecting directly into the center of the large tumor sterile water enough to distend it tightly and cause it to turn white. Fissures, fistulas, ulcers, epitheliomas, strictures, etc., can be operated on under water anesthesia. A small ischiorectal abscess may be treated in the same way, but large ischiorectal abscesses, those requiring extensive cutting and curetting, had better be operated on under other methods. Prolapsus ani of a moderate degree can be almost painlessly operated on by first distending with sterile water the area of the mucous membrane and muscle structures which are to be removed, or by distending the line of incisions when a segment of the bowel is to be excised. He points out the following advantages of water anesthesia:

1. Effective local anesthesia is so quickly and easily obtained by this method, that in a majority of rectal cases there is no necessity of requiring a patient to submit to the annoyance and expense of entering a hospital and undergoing general anesthesia. For this reason it appeals strongly to the better class of patients.
2. The anesthesia instantly follows the injection of water sufficient to distend tightly the tissues to be incised or removed. This enables the operator to work quickly and, as the patient is not confined to the hospital during the after treatment, but can come to the office to be dressed, it economizes the surgeon's time and labor.
3. No annoying or dangerous complications have been observed during or following the injection of the amount of water necessary to produce anesthesia.
4. In the writer's experience the pain and bleeding following this method of local anesthetization have been less than when medicinal local anesthetics have been used.
5. It eliminates the danger to life from heart, lung and kidney complications, which are always to be feared during and following the administration of ether or chloroform, and it avoids the increased pain and hemorrhage due to straining and vomiting after general anesthesia.
6. The only requirements are a hypodermic syringe, a suitable needle and boiled water, and these are usually at hand.
7. The radical treatment of hemorrhoids can be so easily carried out under this method in the physician's office, with so little danger and inconvenience to the patient, that it should relegate to oblivion the much vaunted injection treatment, which is so dangerous and uncertain.

This method is not practicable for excision of the coccyx or extensive operations, such as are required for the removal of large tumors. The after-pain is much less than when drugs are used, since they seem to excite a state of nervous excitability and produce local irritability after the anesthetic effects have been thrown off. While the method can not be employed in all major operations, he has employed it to the exclusion of general and local medicinal anesthetics in nearly all his rectal operations, hemorrhoids, fistulas, fissures, etc., with such satisfactory results that he heartily recommends it to others.

14. **Puerperal Sepsis.**—Pryor holds that the vulva and cavum uteri contain occasional streptococci, and that these streptococci, under favorable conditions, set up virulent septic fever. Moreover, he holds that these do not stay long confined to the original locality, but penetrate the peritoneal cavity, and pelvic lymphangeitis and phlebitis are early complications. In slight cases he washes out the uterus with Thiersch's solution, then with boric acid, and packs it full with a 10 or even 20 per cent. iodoform gauze, which can be done without narcosis, producing but little pain. If the affection is superficial the amelioration of symptoms is sudden, and nothing more is needed than to remove and renew the uterine packing in three days. The second dressing is removed in two more days and is not renewed. This method is a safe one in all the milder forms of puerperal fever, whether due to cocci acting as saprophytes or to saprophytic bacilli, but if applied in the purely sapremic types, a digital exploration of the uterine cavity should be made to discover and remove fragments of placenta or membranes which so frequently are present. If this method does not succeed in six hours in controlling a case of streptococcic endometritis,

he feels sure that the germs have penetrated deeply and that we have to deal with a case of not bacteriotoxic endometritis, but of true septic endometritis or puerperal sepsis. In the latter case he would operate by incision of the posterior cul-de-sac and thorough packing around the uterus with iodized gauze, 5 per cent., so that it completely fills the pelvis from side to side and is in apposition with the posterior layers of the broad ligaments and uterus, and in contact with all that portion of the pelvic peritoneum which overlies those lymphatics and veins that carry infection. The gauze should not project from the vulva. A self-retaining catheter is inserted and cardiac stimulants employed, but, he thinks, very large doses of strychnia have a tendency to contract the arterioles, which is undesirable in streptococcic infection. The first local effect is the enormous outpouring of serum from the peritoneum; the catheter is opened every three hours, the urine measured and tested for iodin, as well as otherwise. To keep up the function of the kidneys, he gives saline enemata in eight-ounce quantities every four hours. He has never noticed iodin eruptions, but in three instances those operated on showed mild systemic effects which soon passed off. Almost immediately after the operation the temperature drops. In eight instances, and only when infusion was employed, has he noticed violent chill and great acceleration in pulse rate as the patient comes out from under ether. This is met by vigorous stimulation with brandy per rectum and nitroglycerin hypodermically. A liquid diet is allowed in twenty-four hours. Endocarditis and pneumonia are treated medicinally. In three days the uterine packing is removed, and is not renewed unless the cavum uteri is large. The cul-de-sac dressing is removed in one week and renewed. All the dressings are saved and examined bacteriologically. If a purge is employed, it should not be by calomel, but by salines, as mercury with iodin may produce poisoning. He finds the colon bacillus still present in all the dressings. It seems to be necessary only to damage the peritoneum-covered tissues very slightly to secure its presence, but he thinks it is devoid of virulence, unless associated with cocci or in the presence of greatly-damaged tissues. The idea is to kill the streptococci, and he has begun a series of observations to determine the effects of iodin on the blood, but has thus far failed to isolate it from the serum. Streptococcal infection diminishes the hemoglobin and intravenous infusion still further lowers it. In only two cases where he has tested the blood along these lines has he found the hemoglobin increased. Pryor has never been able to separate his cases into postpartum and postabortive. In his 37 operations, 36 revealed the streptococcus in the uterine scrapings. In all 37 it was secured from the cul-de-sac. In 10 cases previous curetting had been done by others, and 3 patients died. In 43 cases not previously operated on, 1 died, making a mortality of only 2 per cent. These deaths were due to bilateral pneumonia in 1 and endocarditis with pneumonia in the other 3. Six of the patients have subsequently conceived, 5 going to full term; 1 aborting at the fifth month. He compares this method of treatment with those of curetting, antistreptococcus serum, hysterectomy and the let-alone treatment, and says he has nothing to apologize for. All the women he has operated on have been spared mutilation; in 6 with full restoration of physiologic function. In no case has death resulted directly from the operation. The results, he thinks, can be accounted for in no other way than by the action of iodin.

15. **Food Preservatives.**—Eccles argues in favor of food preservatives.

16. **Tuberculosis.**—In the continuation of his article Maher first discusses the identity of the *X* bacillus according to Conn, who considers it a form closely related to the *Bacillus mycoides*. He shows how it seems to overcome in cultures the pathogenic bacilli, and gives the results of some experiments in which cultures were taken from the blood of patients before the injection of the *X* cultures and after. In the former case there was an abundant growth of staphylococci and in one case of diplococci. Following the injections, plates made under the same conditions showed scattered colon or staphylococci and the permanent growth of the *X*, which soon overwhelmed the others. In the second set of plates, made three and five days after the injection, the growth of the *X* obscured all other growths. In the third set of plates, made on the seventh day after the *X* culture injection, the growth was similar to that of the first set after the *X*.

### Medical Record, New York.

*January 23.*

17 *On Cytodiagnosis in Nervous Diseases. Charles L. Dana. With a Description of the Technic of Cell-diagnosis. F. W. Hastings.
18 *Lymphocytosis of the Cerebrospinal Fluid. Joseph Fraenkel.
19 **Thorium: A Radioactive Substance with Therapeutic Possibilities.* Samuel G. Tracy.
20 A New and Simple Phototherapeutic Lamp. Henry G. Piffard.
21 *Early Operations in Abdominal Troubles. Edmund M. Pond.
22 Two Cases of Abdominal Traumatism. A. B. Atherton.
23 Common Duct Stone Without Characteristic Symptoms. George E. Brewer.

17. **Cytodiagnosis in Nervous Diseases.**—Dana points out the value of lumbar puncture for the examination of the cell count in various cases. He has operated on 22 cases, including a number with paresis and several types of insanity, together with meningitis, tumors, etc. Marked lymphocytosis seemed to be the rule in paresis, though in two of his cases no cells were found. In the alcoholic psychoses there were either no cells found or only three to six in one hundred fields. In a case of cerebellar tumor and one of hydrocephalus there were no cells, and in a case of contusion of the brain the prognosis was considered serious on clinical grounds and confirmed by cell count. He thinks the method will be of use in diagnosticating the doubtful cases of paresis and tabes in the early stage, and also in determining whether or not the patient has had syphilis and whether certain symptoms indicating invasion of the central nervous system by this infection are correct. It will also hold good in diagnosing the activity of the process. If there is an actual inflammatory change going on it will be shown by the presence of polynuclear leucocytes, while in the ordinary conditions of specific infection, only mononuclears are present with a proportion of not over 5 per cent. of polynuclears. He has had no serious trouble from this method, though the operation is somewhat disagreeable as regards subsequent headache and vertigo. It seems in some cases that the headache is reflex or psychic.

The technic of the method is described in detail by Dr. Hastings.

18. **Lymphocytosis of the Cerebrospinal Fluid.**—This article is in a measure supplementary to Dana's, and the findings are practically the same.

19. **Radioactive Treatment with Thorium.**—Tracy illustrates the radio-activity of thorium and calls attention to its antifermentative property. He suggests two methods of using radio-activity in tuberculosis. One is by using a saturated solution of nitrate of thorium in a large shallow receptacle. A slight current of air can be caused to pass over the solution from a compressed air tank, while the patient is inhaling. With the nitrate of thorium there may be more or less free nitric acid; this must be neutralized by passing the emanations, before inhalation, through a wash-bottle containing a saturated solution of sodium bicarbonate. The more satisfactory way, he thinks, is by heating the oxid of thorium by the Lieber apparatus, which is illustrated. The procedure leaves in the lung cells a fine film of radio-active matter which in turn produces the phenomenon of induced radio-activity in the same parts, which may last for one or two days. This is shown by the patient, after inhaling thorium emanations, exhaling on a photographic plate, which produces the ordinary effects on the silver salts. An inhalation given every day or every other day, he says, will keep the lung cells constantly in a radio-active and antiseptic condition. The heat emanating from a Lieber apparatus can be cooled by passing through a glass and rubber tubing, and the inhalation may be given for a period of fifteen minutes at the outset, gradually increasing to half an hour. This method of treating tuberculosis will not interfere with other medical, dietetic or other treatment.

21. **Abdominal Operations.**—The importance of early operation in abdominal troubles is pointed out by Pond. He would fix no stated time. In one case, perhaps, twelve hours is late; in another three days is early. Among those demanding earliest interference are irritations of the stomach, intestines and gall bladder. Another misdirected idea is that of interval operation for appendicitis. Of course, the mortality of operations in the interval is very small, but when to this is added those that die during the attack not operated on, it becomes much larger. It is not always possible to diagnose cases positively at once, but by grouping of the symptoms and exclusion, we can decide whether it is safe to wait or operate at once. In conclusion, he says if you wish to do right by your patients, operate early; if you wish to be conservative and have a small death rate, operate early, and if you wish to get a medical reputation and help the cause along, do the same.

### Medical News, New York.

*January 23.*

24 Interscapulothòracic Amputation for Sarcoma. Charles A. Powers.
25 *Prevention of the Spread of Ringworm. F. H. Beadles.
26 *Cryoscopy of Urine, the Method of Claude and Balthazard F. Burthe.
27 *The Pathology and Treatment of Osteoarthritis. Edward M. Merrins.
28 *Bovine Tuberculosis. J. W. Kime.
29 Neurasthenia. Joseph N. Study.

25. **Ringworm.**—The danger of the transmission of ringworm from one patient to another and also through domestic animals is remarked on by Beadles. He urges the necessity of school inspection and the comparative isolation of the sufferers, not allowing them to use the same towels, combs or brushes with others, and frequently sterilizing those that are used. The number of domestic pets, especially those that are mangy or diseased, should be diminished.

26. **Cryoscopy.**—Burthe's article on Claude and Balthazard's method does not permit of abstracting in detail, and should be referred to directly.

27. **Osteoarthritis.**—Merrins sums up the etiology of the disease, as whenever the tissues or joints suffer from some low form of chronic inflammation from some disease or injury, or are kept continuously irritated from overstrain or foreign bodies, or nutrition is impaired by some glandular disturbance, osteoarthritis may occur. He would not say that it is altogether a disease of toxic origin, but remarks that it is in those diseases in which toxins are formed abundantly that we may expect to find osteoarthritis, and do most frequently. He does not consider it a primary, but rather a secondary affection of these conditions. The medical treatment is that appropriate for the primary condition. The alkalies are prescribed, and do good by preventing intestinal fermentation, but it is doubtful if they combine with the uric acid in the human body as in the chemical laboratory. If they do, they are useful only where the gouty diathesis exists. The salicylates may be given in rheumatic cases for the relief of pain. Except the specific treatment in syphilitic cases, no drug he is aware of is capable of reducing the enlarged bones, but much can be done to check their growth, especially where the internal glandular secretions are defective, by giving preparations of the gland which is at fault. The antidiabetic régime has been found advantageous by Bezley Thorne, and change of climate is often beneficial, and treatment at thermal springs health resorts may improve the general condition. For local treatment, after acute inflammation has subsided, he would give baths of superheated dry air, followed by gentle passive movements and massage, gradually increasing the range of motion, but never causing severe pain or inflammation. In the early stages rest and alleviation of pain are necessary. In advanced cases forcible manipulation of the joint under anesthesia has occasionally effected temporary improvement, but is hardly advisable.

28. **Bovine Tuberculosis.**—Kime insists on the dangers of infected milk and the need of elimination of tuberculous animals from the dairy herds. He thinks the unfortunate utterances of Koch have materially lengthened the time necessary to stamp out bovine tuberculosis.

### St. Louis Medical Review.

*January 23.*

30 *Preparation of Patient for Abdominal Section and Treatment of the Case. Walter B. Dorsett.

30. **Abdominal Operations.**—The preparation of the patient for an abdominal operation is described by Dorsett. He believes in the simpler methods, avoiding irritant chemicals around the field of operation, but using good, clean soap and hot water and a razor to scrape off any excretions that are brought to the surface. This may be all that is necessary until the patient is brought to the table, the part being protected by a thick layer of sterile gauze or absorbent cotton left in place until the patient is anesthetized and brought to the operating room. This is then removed, and the site of operation again scrubbed or wiped off with a solution of green soap, rinsed off with sterile water, after which sulphuric ether is applied, and when it has disappeared by evaporation, alcohol is used. Sterile towels are applied around the proposed incision, care being taken not to leave too great a portion uncovered. During the operation the surgeon should avoid touching the skin of the patient unnecessarily, and at no time, if the intestines be brought through, should they be allowed to rest on the skin, but only on sterile towels, which should be changed as soon as soiled. He thinks, in our zeal to get the intestinal tract free of fecal matter, we overdo catharsis and weaken the patient. His favorite formula for all celiotomies is: Magnesium sulphate, 3 drams; sol. magnesium citrate, 12 ounces; solution carmin, 15 minims. Sig.: One-third contents of bottle every three or four hours till bowels act. On the morning of the operation a copious soapsuds enema is given to remove the remaining fecal matter, so that in case a saline enema be required later a better absorbing surface in the colon is provided. For the prevention of emesis he has lately established the plan of allowing the patient to drink thirty to forty ounces of water in quantities of ten ounces at intervals of half an hour, prior to going to the operating room. The stomach is then filled with water, and when the chloroform or ether enters it dissolves in the water and is held in solution, avoiding irritation of the gastric walls. The last drink of ten ounces is given immediately before the anesthesia. He has noticed that in most instances this last portion is vomited with but little effort and the nausea ceases. This practice has greatly lessened his anxiety in many cases. For dressing the incision he is in the habit of folding pads of gauze so as to make them hard, applying them on each side of and over the line of incision, maintaining them in contact with the abdominal wall by a larger piece of gauze sealed down with collodion. This firm dressing, when the binder is drawn snugly, acts as a buffer or in the same manner as does a pad or truss. The collodion also prevents the dressing from slipping off during convalescence or when the patient turns. It is not removed until the tenth day after the operation, when the pads are removed. For gaseous distension he uses the Virgil O. Hardin treatment, viz., enemata of alum solution, half an ounce of pulverized alum to one pint of warm water, carried well up into the colon, best introduced with the patient in the Sims posture. The peristalsis of the colon thus induced draws the gas through the ileocecal opening, and it is expelled. He prefers this to any attempt to open the bowels with laxatives the day after the operation.

### Cincinnati Lancet-Clinic.

*January 23.*

31 The Eye, Ear, Nose and Throat Complications in Acute Infectious Diseases. Derrick T. Vail.
32 Comparison of Measures for Rescue of Mother and Child in Placenta Previa. Walker Schell.
33 The Medical Society and Medical Progress. B. H. Blair.

### Chicago Medical Recorder.

*January 15.*

34 *Home Treatment of Suppurative Ear Diseases. Joseph C. Beck.
35 *The Treatment of Urethritis in the Acute, Subacute and Chronic Forms. George Rubin.
36 Tuberculosis and Life Insurance. Thomas G. Allen.
37 Medical Examinations for Life Insurance in Large Cities. L Brackett Bishop.
38 *The Technic of Blood Examinations. Ross C. Whitman.

39 Tuberculous Disease of the Bone. John Ridlon.
40 Some Observations of Practical Interest on Colonic Lavage. Milton H. Mack

34. **Suppurative Ear Diseases.**—Beck describes the method of treating suppurative ear disease by means of a specially adapted probe and tube containing gauze. The tube has a little beak at the tip which acts as a retractor for the tragus and also aids the probe in getting hold of the gauze. His conclusions are given as follows:

1. That most individuals afflicted with suppurative ear diseases belong to the poorer (clinically treated) cases 2 That two or three times a week treatment by the physician is not satisfactory, especially in acute cases 3 That the constant moisture in the middle ear and external ear leads to granulation formation, decomposition and necrosis 4 That by means of intelligently instructing patients the treatment of suppurative ears can be markedly improved on and better results obtained 5 Patients and their immediate friends are easily instructed 6 That by means of this specially contrived tube gauze and probe the patient may be safely intrusted with the treatment, since infection and injury are not liable to follow. 7. Without the aid of a head mirror, ear speculum, etc, one can pack the ear very easily in that way, and it makes a very convenient appliance also in office practice

35. **Urethritis.**—Rubin uses a weak permanganate of potash solution for irrigation, starting with 1 in 10,000 or 1 in 15,000, gradually bringing it up to 1 in 5,000 in the third or fourth week. He uses the ordinary fountain syringe and a glass bulb, olive-shaped, the same as used for the nasal douche. He prefers a single current, and treats the acute case once a day. During the first two weeks the anterior urethra alone is irrigated, but later the posterior urethra and bladder are also flooded. With the irrigation treatment he also has the patient use 5 per cent. argyrol solution as an adjunct, and also prescribes sandalwood oil, 5 minims, with salol and sodium bicarbonate to be taken 3 gr. each one or two hours after meals These remedies are only necessary in the acute or subacute form when the urine is highly acid He allows the patient to drink plenty of pure water, discontinuing, of course, all carbonated waters and alcohol. In chronic cases the sound plays an important part in addition to the irrigation treatment, but the irrigation precedes all the instrumental work. He calls attention to the value of cocain solution, 2 to 5 per cent, used before introducing the sound in very sensitive urethras His cases were cured in three to six months, three treatments a week being sufficient for the chronic cases He has no good word to say for the instillation method

38. **Blood Examinations**—Whitman's article is a clear account of the method of examining the blood and the use of various reagents He thinks, however, that the physician should read some special work on the subject While the technic may look a little intricate to the beginner, two or three hours' practice will go far to solve its difficulties. The examination does not take any length of time

### The Laryngoscope, St. Louis.

*December*

41 The Removal of Obstructions and Cicatricial Contractions of the Nose by the Plastic Method John O Roe.
42 *The Present Status of the Treatment of Mastoiditis Geo F. Keiper
43 *Chronic Tonsillitis Gilbert D Murray.
44 The Present Status of the Dunbar Hay Fever Therapy. F W Bailey

42 **Mastoiditis.**—Keiper has sought the opinions of various authorities as to the use of heat or cold and the methods of application in mastoiditis, and gives the results of his replies. The author himself favors the use of hot applications, and that seems to be the opinion of the majority, at least for continued applications.

43 **Tonsillitis.**—Emphasis is laid by Murray on the following points

1 The teeth should receive attention from infancy The tongue when coated should be cleansed as carefully as the teeth 2 The mouth is a primary cause of tonsillitis and ought to receive simultaneous treatment with the throat 3 Offensive breath, from microorganisms present in the mouth and throat, can be eliminated through the personal effort of the patient 4 Bad taste in the mouth, particularly before meals, suggests infection of the tonsils, decomposing epithelium debris on the tongue, gums, teeth and oropharynx—one or all This filth (in which Steinberg found 42 different varieties of micro organisms) ought to be cleaned and sterilized several times daily by the patient 5 Diseased tonsils, not necessarily enlarged and often hidden, no longer act as a barrier to disease, but rather as a germ incubator and ought to be removed 6 No method of removing the tonsil is a safeguard against dangerous hemorrhage when one operates on a bleeder

### Albany Medical Annals.

*January.*

45 The Medical Annals: Autobiographical. Frederick C. Curtis and Willis G Tucker
46 Four Cases of Gangrene. Albert Vander Veer and Edgar A. Vander Veer.
47 Lipoma of the Intestine Samuel B. Ward.
48 *Myasthenia Gravis Henry Hun. With Report of the Autopsy by George Blumer, Together with a Report of the Microscopic Examination of the Tissues. George L Streeter.
49 *Acute Ascending Paralysis of the Type of Landry. With the Report of Two Cases, One with Autopsy, the Other with Complete Recovery. Hermon C. Gordinier.
50 *A Consideration of the Efficacy of Antitoxin in the Treatment of Diphtheria Joseph D Craig.
51 Nervous Dyspepsia Andrew MacFarlane
52 *The Islands of Langerhans in Congenital Syphilitic Pancreatitis Richard M Pearce
53 *A Study of the Changes Occurring in the Endometrium During the Menstrual Cycle H. Judson Lipes.
54 *The Pathology and Treatment of Tetanus With Report of Three Cases Arthur W. Elting.
55 A Plea for the Rational Administration of Chloroform as a Routine Measure in Labor. Spencer L Dawes.
56 *The Etiology and Diagnosis of Ozena and Its Relation to Pulmonary Tuberculosis A Preliminary Report. Clement F. Theisen.
57 *Starch Digestion in Infancy. Henry L. K Shaw.
58 The Etiology of the Summer Diarrheas of Children and of Dysentery of Bacterial Origin. Herbert D. Pease and Henry L K. Shaw.
59 Cysts of the Mesentery. Alvah H. Traver.

48. **Myasthenia Gravis.**—Hun's patient was a man 32 years of age, the disorder commencing insidiously, first showing itself in ptosis, with the slow development of the typical clinical picture of the disease, which is remarkably uniform in its manifestations. The postmortem revealed a sarcoma of the anterior mediastinum, possibly originating in the thymus, but no lesions in any part of the nervous system. In the presence of sarcoma the case was similar to one of Weigert and also one of Link in which the thymus was persistent. In Oppenheim's case of doubtful diagnosis, but closely resembling myasthenia gravis, there was also sarcoma in the anterior mediastinum. The authors, however, do not attribute the condition to this anomaly. They conclude that so far as can be estimated from the present data, the best theory of the pathology is that of interference with the lymph circulation. The only lesion that has yet been found which has been confirmed by a number of observers is infiltration of the muscles with lymphoid cells. Whether this is primarily due to irritation of a toxin or some other cause, or whether it is secondary to primary change in the lymphatic circulation, is uncertain, but Hun inclines to the former. The prognosis of the condition is necessarily bad, and the treatment, as the authors say, is a matter of the future. The article concludes with a full bibliography.

49. **Landry's Paralysis.**—Gordinier reports two cases, one with recovery.

50. **Diphtheria Antitoxin.**—Craig's report is based on a study of 1,182 cases. His conclusions are given as follows:

1 The use of antitoxin is increasing and is generally accepted as a valuable therapeutic agent by the medical profession 2 The medical profession is using mature judgment in the selection of cases for the use of antitoxin, the milder cases being permitted to to go on to recovery without the use of antitoxin, and the more severe cases, including the mixed infections, are given the benefit of protective inoculation 3 The use of antitoxin has decidedly diminished the death rate and has saved many lives

52 This article appeared elsewhere. See THE JOURNAL of Jan. 9, ¶33, p 127.

53. **Menstruation.**—The changes in the endometrium in menstruation are summed up by Lipes in substance as follows: The menstrual cycle is divided into three periods, one preceding the flow, characterized by a gradually developing congestion resulting in serous or serosanguineous infiltration of the stroma of the mucosa, separating the cellular elements and gravitating toward the periphery, forming collections of blood beneath the surface epithelium. Slight glandular hypertrophy, as well as swelling of the gland cells and consequent hypertrophy of the whole mucosa, likewise occur. The second stage of active hemorrhage is characterized by the outflow of blood through a diapedesis or through a rupture of the subepithelial hematoma with more or less loss of superficial epithelium depending largely on the severity of the

process. In the third stage involution takes place. The engorgement lessens, and rapid absorption of the blood in the stroma takes place. The epithelium which has been lost is regenerated by indirect cell division of the adjacent cells. This stage is prolonged until the premenstrual swelling takes place again, or else there is a slight interval during which the mucosa is inactive.

54. **Tetanus.**—Elting reports three cases and reviews the pathology and treatment. He concludes that the transmission of the toxin is along the axons of the peripheral nerves and not along the perineural and endoneural lymphoid spaces, and that it has a special affinity for the anterior horn cells and their analogues, the motor nuclei of the medulla and pons, as well as the peripheral and central axons. The sensory impulses play an important part in the production of this tetanus spasm. The action of tetanus toxin on the nerve cell is, perhaps, best explained by Ehrlich's theory, according to which the protoplasm of the nerve cell possesses certain so-called side chains which are able to attract and attach themselves to tetanus toxins in the blood. He favors the antitoxin treatment, and in this the subcutaneous method will be most generally applicable, but should be supplemented in severe cases by subdural injections. The Baccelli method of use of carbolic acid, he thinks, perhaps, is of value as a symptomatic treatment in conjunction with antitoxin.

56. **Ozena and Tuberculosis.**—Theisen has studied the connection of ozena with tuberculosis, observing altogether 21 cases, in 8 of which pulmonary tuberculosis occurred. He thinks it is more than a coincidence that this complication should be so frequent. When we consider how ozena affects the normal functions of the nose, we can readily understand how the tendency to tuberculosis can be established.

57. **Starch Digestion in Infancy.**—From a series of tests made on babies in a hospital Shaw concludes that:

> The saliva of very young infants contains a diastatic enzyme capable of converting small amounts of starch into maltose. This diastatic action of the saliva may continue in the stomach as long as two hours after feeding. Therefore, on physiological grounds, there is no reason why young infants can not digest small amounts of starch.

### Medical Standard, Chicago.

*January.*

60 *Plastic Operations on the Sphincter Ani Muscle for Incontinence of Feces. J. Rawson Pennington.
61 A Surgical Clinic (Blastomycosis, Synovitis of Ankle Joint, etc.). N. Senn.
62 The Pathologic Pupil; Its Significance. Willis O. Nance.
63 Fistula of the Rectum. Charles J. Drueck.
64 Some Factors in the Causation of Drug Habit. Burton R. Corbus.
65 The Value and Limitation of Crounotherapy (mineral waters). George T. Palmer.

60. **Rectal Incontinence.**—Pennington operates by making a semicircular incision at one side of the anus, cutting the sphincter muscle and freshening the edges or ends of the torn sphincter by taking a V-shaped piece out of the angle and suturing the parts together. Then the flap is replaced and sutured and an aseptic dressing and T bandage applied. He thinks Chetwood's operation (see The Journal of April 19, 1902, vol. xxxviii, ¶30, p. 1037), is also a valuable one, and describes it. The article has 6 illustrations.

### Archives of Otology, New Rochelle, N. Y.

*December.*

66 A Case of Thrombophlebitis of the Cavernous Sinus, Complicating an Empyema of the Sphenoidal Sinuses and Ethmoidal Cells, Mistaken for a Thrombophlebitis of the Lateral Sinus. C. E. Finley.
67 *Clinical Experiences with the Enlarged Pharyngeal Tonsil. H. Gradle.
68 On the Pathology and Treatment of Chronic Purulent Otitis. I. Indications for Removal of the Hammer and Anvil. II. Relative Frequency and Localization of Disease of the Ossicles. Dr. Suckstorff.
69 *On the Causation and Prevention of Bone Necrosis in the Course of Chronic Purulent Otitis. A. Scheibe.
70 *Manifestation of Traumatic Hysteria in the Organ of Hearing. Ernest Barth.
71 *On a New Symptom of Hemoglobinuria; Cyanosis and Gangrene of the External Ear. F. Rohrer.

67.—This article has appeared elsewhere. See The Journal of Jan. 9, ¶19. p. 125.

69. **Bone Necrosis in Chronic Purulent Otitis.**—Scheibe finds that necrosis in chronic non-specific middle-ear suppurations is exclusively of local nature. The suppuration acts in a necrotic manner only when pus is retained and putrefies. This condition generally occurs only when the middle-ear suppuration is complicated by cholesteatoma, although other causes are possible. In one patient the bone necrosis followed the use of carbolic acid. It is striking how rarely chronic suppuration without cholesteatoma causes necrosis. The prophylaxis, therefore, is connected with the treatment of the cholesteatoma; if it is possible to prevent putrefaction of pus, the onset of necrosis can be prevented. This is usually accomplished by antiseptic treatment with the tympanic canula as devised by Hartmann and Bezold. In exceptional cases, where continued treatment does not succeed in correcting the fetor, operation is indicated. He has not, however, observed a single case of cholesteatoma where necrosis occurred during treatment.

70. **Traumatic Hysterical Deafness.**—Barth reports two cases in which, with complete bilateral deafness of hysterical origin, the unconscious perception of musical sounds was not impaired. In the first case the condition was only temporary. In the second case with a traumatic cause in a rather neurotic individual, the deafness persisted and color blindness also appeared; the progressive course of the disease made the prognosis unfavorable.

71. **Hemoglobinuria.**—Rohrer reports a case where, with hemoglobinuria there was a bluish black discoloration of the auricles and superficial gangrene which, however, passed away without leaving a serious scar. The urine contained albumin and blood pigments. He has not observed this symptom in otologic literature. but found a case published by Wilkes in 1879, in which a similar symptom was associated with abscess of the hip-joint after injury. The fingers in this case, the toes and the tip of the nose also participated. (This is reported here as a case of hemoglobinuria, though in the brief abstract given, this symptom is not mentioned). These observations, Rohrer remarks, show that, with the appearance of lividity and cyanosis, hemoglobinuria should be suspected and an analysis of the urine be made.

### Southern Practitioner, Nashville, Tenn.

*January.*

72 *Do We Place Too High a Value on the Presence or Absence of Murmurs in Cardiac Disease? E. G. Wood.
73 *Fractures of the Skull. Paul F. Eve.
74 The Finsen Light Cure. H. John Stewart.

72. **Cardiac Murmurs.**—The diagnostic value of murmurs is over-estimated in Wood's opinion. He does not think that murmur in the cardiac area is conclusive evidence of heart disease. It may be hemic or exocardial in origin, and even when endocardial, it is doubtful whether it gives any information as to the condition of the cardiac muscle or the extent of the valvular lesion. In most cases changes in the size of the heart, character and relative intensity of the cardiac sounds and the condition of the pulmonary or peripheral circulation are the most important factors in the case. The absence of cardiac murmurs is of very slight value in excluding cardiac disease, as they may be absent in grave disorders for a long period. In prognosis they are also of very little value. We can rely more on the general appearance of the patient and the same indications as in diagnosis.

73. **Fractures of the Skull.**—Two cases are reported by Eve, who thinks that in all cases of injury of the cranial vault or where there is any suspicion of fracture, it is the duty of every surgeon to cut down and investigate. If there should be a small external wound it should be enlarged. If there is a fracture, whether linear or otherwise, trephining should be performed as soon as possible on account of the danger from sepsis. He believes in thorough irrigation with normal saline solution, continuing it from ten to twenty minutes, and where any spiculæ of bone are carried into the brain, this irrigation should be carried to the very bottom of the wound. There should also be drainage by either catgut, gauze or tube, but it can be dispensed with if no pus is found at the end of the third day. The hemorrhage can be arrested by hot normal saline solution

(120 F.) or gauze pack. In fractures of the base of the skull he thinks sepsis can be prevented by thorough irrigation with warm normal saline solution, 115 to 120 degrees, either in the nasal cavity or ear, as these are the points where the bacteria usually gain access. It has been his plan for years to irrigate these cavities as far as possible and continue it from ten to twenty minutes. Strychnin should be administered for combating shock and the bromids to rest the brain, preferably the bromid of ammonium. He lays stress on the position of the patient, having those with fracture of the anterior fossæ lie on the abdomen, while those with fracture of the middle or posterior fossæ lie on the ear from which the bleeding occurs. The irrigation in these cases should be done every two or three hours, as gently as possible.

### Journal of Medical Research, Boston.

*January.*

75 *Scarlet Fever. Protozoon-like Bodies Found in Four Cases. F. B. Mallory.
76 *A Study of Actinomyces Cultivated from Commercial Vaccine Virus. William T. Howard, Jr.
77 The Shape of the Mammalian Red Blood Corpuscles. Frederic T. Lewis.

75.—See abstract in THE JOURNAL, Jan. 2, 1904, p. 52.

76. **Actinomyces.**—Howard describes here the forms observed by him in vaccine virus. Actinomyces have been found in bovine vaccine virus by three sets of workers, Sabrazes and Jolly, Folli, and himself. His summary is as follows:

> The vaccine virus of five vaccine establishments in the United States examined by me during the period from October, 1902, to May, 1903, contained [illegible] a total of ninety-five cultures. I [illegible] nine different species of actinom[illegible] new, were found. These organisms probably reach the virus from the air, water, soil, hay, straw and hide. While unsupported by bacteriologic investigations, or by experiments, it is not improbable that some of the postvaccinal suppurative infections are caused by these organisms, and are cases of atypical actinomycosis.

### Texas Medical News, Austin.

*December.*

78 *The Treatment of Urethral Strictures. E. E. Guinn.
79 The Regular or Rational Physician. S. B. Kirkpatrick.
80 Puerperal Infection. J. M. McCutcheon.
81 Report of Two Cases of Tubo-ovarian Pregnancy. R. M. Dunn.

78. **Urethral Stricture.**—Guinn advocates the electrolytic treatment, using a battery of ten cells or more, an indifferent electrode pad and a series of olive-pointed bougies, of different sizes. He commences with the smaller size first, with a current of three to five milliampères for fifteen minutes, repeating the operation after ten days, using each time a larger electrode sound, always with the negative pole in the stricture. This softens and dissolves away the tissue, while the positive pole hardens and dries. The latter is attached to the indifferent pad electrode, placed at some indifferent point on the body.

### Proceedings of the Philadelphia County Medical Society. Philadelphia.

*December 31.*

82 *Report of a Case of Hydrophobia with Autopsy. G. Morton Illman.
83 Practical Lessons from an Experience of More than One Hundred Cases of Eclampsia. Barton C. Hirst.
84 *Myxedema Complicated with Diabetes Mellitus Occurring in Two Children. Effect of Thyroid Extract on Both Diseases. Remarks on the Pathogenesis of Diabetes. Alfred Gordon.
85 The Value of Histologic Examinations in Carcinoma of the Uterus. Brooke M. Anspach.
86 *The Serum Treatment of Hay Fever. Lewis S. Somers.
87 Erysipelas and Atrophic Rhinitis. I. Valentine Levi.

82. **Hydrophobia.**—Illman reports a case carefully observed throughout its course, and followed by autopsy. He calls special attention to the lack of psychic manifestations. Inoculation experiments were positive in rabbits.

84. **Myxedema and Diabetes.**—The cases here reported were of brothers, aged respectively three, four and one-half years, and in each case there was a marked diabetes, not simply glycosuria. The occurrence in such early childhood is of note, as also the relationship of the patients as indicating a degenerative hereditary tendency. Both cases were favorably affected by thyroid medication. Its action on both the conditions was notable, and it was even earlier in its effect on the diabetes than on the myxedema. There was without question, he thinks, from this fact, a direct relationship between the diabetes and the thyroid gland. The fact, too, that the prognosis of diabetes in children has generally been unfavorable, while in these cases it was the reverse, is worth mentioning. He asks, does not the outcome in this case indicate that diabetes due to deficient thyroid function is far less grave a type than that caused directly by destruction or pathologic conditions of the islands of Langerhans?

86. **Hay Fever.**—Somers notices Dunbar's work on this subject and gives his own experience with the use of serum from animals inoculated with the pollen toxin of golden rod in ten cases. Admitting that the number is too small for positive conclusions, he suggests that the experience obtained with the golden-rod antitoxin indicates that:

> 1. The serum produces prompt and positive amelioration of the symptoms of fall hay fever in the majority of cases. 2. In a smaller number this favorable result is soon accompanied with the complete disappearance of the affection. 3. Where slight or no action is seen after its use, pollen as an etiologic factor does not predominate. 4. When results are obtained, it favorably influences all the manifestations of hay fever. 5. While I am unable to state from personal experience the effect of the serum on hay fever occurring at other times of the year, or its effects when administered in advance of the attack, yet when given during the attack, irrespective of its severity, it produces marked palliation rather than absolute cure. 6. Its effects on future attacks remain as yet unknown. 7. The serum in powder form is slightly soothing to the nasal mucosa, has but little influence on the other symptoms of the affection, and in occasional cases it may act as a direct irritant. Finally, as a result of larger experience, especially with hay fever occurring at other times of the year, it may become necessary to modify some of the opinions in regard to this antitoxin.

### Atlanta Journal-Record of Medicine.

*January.*

88 *The Question of Nasal Treatment for the Cure of Diseases of the Ear. Alex. W. Stirling.
89 *Combined Anesthesia with Ethyl Chloride and Ether. William P. Nicholson.

88. **Nasal Treatment of Ear Diseases.**—The proposition advanced by Stirling is that it is of no use to employ intranasal treatment for the relief of deafness unless such treatment is also advisable for the sake of the nose itself. In a few cases, however, of slight adenoids around the orifice of the eustachian tube and associated with middle-ear catarrh, it would be advisable to remove them even if there were no symptoms referable to the nasopharynx.

89. **Ethyl Chlorid and Ether.**—Nicholson, advocates ethyl chlorid as a preliminary to ether anesthesia, using an ordinary Esmarch chloroform inhaler and spraying from an ordinary kelene tube. When the patient ceases to show pain from pinching the skin of the hand, the ether inhaler is applied and the patient passes rapidly into complete anesthesia in from three to five minutes. The advantages of this method are the lack of struggling, the absence of prolonged nausea of anesthesia, and the very small amount of ether consumed. He thinks the method is as free from danger as any anesthesia can be, is inexpensive, and lessens to a large degree the danger of complications. It requires no such cumbrous apparatus as the nitrous oxid ether anesthesia.

### Medical Age, Detroit.

*January 10.*

90 Gastric Cancer. A. L. Benedict.
91 Acute Parenchymatous Nephritis. E. Luther Stevens.

### Northwestern Lancet, Minneapolis.

*January 1.*

92 Surgery of the Prostate. J. Warren Little.
93 Supracondylar Osteotomy for Bow-legs. C. J. Ringnell.
94 Catarrh and Predisposition. B. M. Behrens.

*January 15.*

95 Fractures of the Lower Jaw. Arthur T. Mann.

### Vermont Medical Monthly, Burlington.

*November 25.*

96 Prolapse of the Uterus. S. G. Start.
97 Acute (Diffuse) Nephritis. Deane Richmond.
98 An Easy Way to Reduce Dislocation of the Shoulder-joint Without Anesthesia. Henry Janes.

### Brooklyn Medical Journal.

*January.*

99 Observations on Puerperal Septic Infection. Charles Jewett.
100 Contraindications to Maternal Feeding. William A. Northridge.
101 Some Results in Roentgen Diagnosis and Therapeutics. Charles Lester Leonard.
102 Some Pathologic Similarities Between Appendicitis and Cholecystitis. Walter C. Wood.

### Detroit Medical Journal.

*January.*

103 The Prevention of Tuberculosis. William Tibbles.
104 The Milk Supply of Cities and Dangers from Its Contamination. Guy L. Kieffer.
105 Acute Gastritis. W. M. Harvey.

### Bulletin of the Kentucky State Medical Association, Louisville.

*January.*

106 Pneumonia, Its Clinical Varieties, Anomalous Types and Treatment. J. Tom Price.
107 Porro-cesarean Section Necessitated by Malignant Disease of the Uterus. R. C. McChord.
108 Exostosis of Orbit, with Report of Case. D. C. Bowen.

### Journal of Eye, Ear and Throat Diseases, Baltimore.

*November-December.*

109 A Large Dermoid Tumor of the Mastoid. Richard H. Johnston.

### Medical Sentinel, Portland.

*December.*

110 Observations on the Climatology of the Arid Region. F. Cauthorne.
111 Report of Eight Cases of Appendicitis Treated Without Operation. F. S. Lewis.
112 Excision of the *Cervical Sympathetic Ganglia for Glaucoma,* Exophthalmic Goiter and Epilepsy. H. D. Niles.
113 Ununited Fractures, with Report of Five Cases. W. C. Cox.
114 Practical Therapeutics in Eye Diseases. Jno. A. Donovan.

### Columbus Medical Journal.

*January.*

115 Carbolic Poisoning, with Report of Case. D. S. Hanson.
116 Glioma of the Retina. C. F. Clark.
117 Typhoid Gangrene of the Lower Extremities and Feet. B. Merrill Ricketts.
118 Diagnosis in the Right Half of the Abdomen. Byron Robinson.

### Canadian Journal of Medicine and Surgery, Toronto.

*January.*

119 The Care and Treatment of the *Criminal.* C. K. Clarke.
120 The Open Method of Treating Fractures. F. N. G. Starr.
121 Personal Experience with Alexander's Operation for Retroversion of Uterus. H. Meek.

### Canadian Practitioner and Review, Toronto.

*January.*

122 Hay Fever; Etiology and Specific Treatment. V. E. Henderson.
123 Otitis Media. G. H. Burnham.

### Dominion Medical Monthly, Toronto.

*January.*

124 *Inter-relations of Diabetes and Other Constitutional States. George F. Butler.
125 *Prostatectomy and Galvano-caustic Prostatotomy (Bottini's Operation); Their Present Status in the Radical Treatment of Hypertrophied Prostate Gland. Willy Meyer.
126 *Practical Considerations on Intestinal Anastomosis. Theodore A. McGraw.
127 Impetigo Circinata. Graham Chambers.
128 Case Reports of Syphilis, with Remarks. James Ross.
129 The Treatment of Facial Deformities by the Subcutaneous Injection of *Paraffin.* George K. Grimmer.

124.—See abstract in The Journal, xli, ¶3, p. 1111.

125.—*Ibid.*, xl, p. 1670.

126.—This article appeared elsewhere. See The Journal, xli, ¶122, p. 1371.

### Virginia Medical Semi-Monthly, Richmond.

*January 8.*

130 Report of Two Tracheotomy Cases. Clarence P. Jones.
131 *Tubercular Osteitis of the Knee. A. R. Shands.
132 A Visit to Professor Kehr's Clinic in Halberstadt, Germany. I. S. Stone.
133 Some Notes on the Symptoms and Diagnosis of Cholelithiasis. Stuart McGuire.
134 The Constitutional Condition in *Amputations.* Thomas H. Manley.

131.—See abstract in The Journal of January 16. p. 190.

### Medical Bulletin, Philadelphia.

*January.*

135 Arthritis Deformans. John V. Shoemaker.
136 A Clinical Lecture on the Treatment of Gonorrhea. H. M. Christian.
137 Rapid Tracheotomies. E. B. Gleason.

### Medical Summary, Philadelphia.

*January.*

138 Dyspepsia. F. B. Brubaker.
139 Water and Its Relation to Health. J. L. Wolfe.
140 Practical Bedside Notes. C. W. *Canan.*
141 Rupture of Sublingual Gland. Alex. Rixa.
142 How to Avoid Prescribing Opium and Morphin. N. B. Shade.
143 Tonsillitis. Ira A. Marshall.
144 Gonorrhea. J. A. Burnett.
145 Avena Sativa. M. G. Price.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### Presse Médicale, Paris.

1 (II, No. 102.) *History of a Tack and of a Prune Stone in the Bronchi. M. Lermoyez and J. Guisez.—Histoire d'un clou et d'un noyau de prune *dans les bronches.*
2 Cas de dysentérie amibienne. H. Vincent. Three cuts.
3 (No. 103.) *Le radiodiagnostique *des corps étrangers* des bronches. A. Béclère.
4 *De l'œsophagoscopie et de la trachéobronchoscopie directes. J. Guisez.
5 (No. 104.) *La tuberculose dans l'armée et dans les campagnes. E. de Lavarenne.
6 *Du diagnostique de la pyélite et de la pyélonéphrite simples et tuberculeuses. *P. Bazy.*
7 *L'energie de croissance (of growth). F. Trémolières.
8 *Peru Balsam in Treatment of Compound Fractures. J. Dumont.—Le baume de Perou dans le traitement des fractures.
9 *Effects of Tuberculin Injected Immediately After Tuberculous Infection. A. Marmorek. From society report.
10 (I, No. 1.) *Direct Examination of False Membranes. Deguy and Patry. From society *report.*
11 Autopsie du cecum. M. Letulle. Twenty-five cuts.

**1, 3 and 4. Foreign Bodies in the Bronchi.**—Lermoyez describes the history of a prune stone which entered the air passages during a fit of coughing. The subject was a healthy young woman, *but all attempts to remove the stone through* the natural routes or a tracheotomy incision proved fruitless, and she died in a few days with symptoms of bronchopneumonia. He had the impression that his intervention had aided in the impaction of the foreign body and the fatal result. In contrast to this occurrence several years ago, he relates the history of a tack slipping into the bronchi recently *in the same way. He was able to locate it exactly with* radioscopy, examine it through the bronchoscope, and he might have withdrawn it by the natural route with a magnet if he had had one of the proper shape. As it was, low bronchoscopy through a tracheotomy incision, followed by the application of the magnet, resulted in the immediate withdrawal of the tack. A foreign body not attracted by the magnet could have been readily removed with forceps under the same conditions. He lauds the great value of Killian's bronchoscope as "lifting the veil that has hitherto concealed the bronchi from our view." Béclère gives a number of radiograms of foreign bodies in the bronchi and emphasizes the superiority of radioscopy to radiography for these cases. The former shows whether the foreign body is loose or impacted. When a radiogram is taken it should be during apnea, as he shows by comparison of the results thus obtained. Guisez describes the technic of bronchoscopy with numerous cuts, including one of a phantom bronchus for practice.

**5. Tuberculosis in the French Army.**—De Lavarenne confirms the recent assertions of the medical members of the French parliament in regard to the dissemination of tuberculosis throughout the farms and villages by returned soldiers. The removal from a country life to the barracks and the stress of military life are liable to fan a latent tuberculous affection into a blaze, and large numbers of the recruits develop serious tuberculosis during their first year of compulsory military service. *When dismissed,* they return home to become a focus of infection for the farm or village. Even during their term of service they are liable to infect other healthy recruits. He states that the candidates are examined with such haste that less than thirty seconds was devoted to each one in the last examinations at the recruiting office for the Seine department. It follows that many really healthy young men are rejected while others are accepted when a more careful examination would have revealed incipient or latent tuberculosis. Country physicians say that the proportion of tuberculous patients is constantly *increasing* in their practice where formerly they were rare. Some have now from 20 to 30 per cent., and one reports 60 to 70 per cent.

**6. Diagnosis of Pyelitis and Pyelonephritis.**—Bazy mentions that when *inflammation* of the lower part of the ureter is determined we may safely assume total ureteritis and pyelitis, as a circumscribed ureteritis has never been known to date. Pyelitis or pyelonephritis may exist without the classic symptoms, and the functional signs, pollakiuria and terminal pain or *hematuria at micturition* may be ascribed to a real or imaginary cystitis Abnormal frequency of micturition at night in comparison to the day should arouse attention, whether the abnormality is in a greater or lesser frequency than the daytime desires in comparison to normal Another sign is the presence of pus in too large proportions to be ascribed to the bladder alone, a deposit of 1 5 to 2 cm at the bottom of the vessel Pyelitis and pyelonephritis may induce pain on pressure of a point on a horizontal line passing through the umbilicus at a short distance from the latter, almost exactly over the outer margin of the rectus muscle He calls this tenderness the paraumbilical or upper ureter pain Another painful point is just below the costal arch, another at the apex of the costomuscular angle The latter is the lumbar pain The first, the paraumbilical, is the most frequent, the most painful, and frequently appears alone Pressure at this point is sometimes more painful than on the kidney itself, and sometimes induces a desire to urinate He calls this the pyelovesical reflex It is impossible or difficult to palpate the ureter through the vagina in health, but in case of inflammation it can be felt as a cord, more or less tender its entire extent and especially at its orifice in the bladder Pressure at the latter point is sometimes accompanied by a desire to urinate and sometimes by an ascending pain felt in the corresponding lumbar region This latter pain is characteristic and suffices alone to establish the diagnosis of pyelitis even when the ureter is not directly palpable In the male subject the same kind of pain is induced by pressure on the fundus of the bladder just above one of the horns of the prostate Palpation through the rectum in the male subject is thus almost as instructive as through the vagina in the female In case of bilateral kidney affections the upper and the lower ureter pains are sometimes crossed in respect to their intensity In conclusion, he insists on the value of nocturnal pollakiuria as the most important of all signs for the differentiation of pyelitis In treatment, a milk diet and rest are the most important and most efficient measures at our command, and usually suffice in recent cases

7 **Growth Energy**—Trémolières thinks that the day is at hand when we will be able to estimate the energy of growth just as we now estimate the energy of heat, light, mechanical force and electricity The phenomena of growth evidently depend on the materials of cell nutrition, lecithin, salts, etc, supplied in the food, dissolved in the water the organism absorbs, and penetrating into the cells by the processes of osmosis, under the influence of the organic electricity Growth energy is a colossal force, as we see solid rocks split by the growth of the roots that have penetrated into their interstices When we are able to measure it and know more about it we may be able to stimulate the development of the human body or correct its growth when it is arrested or abnormal

8 **Balsam of Peru Treatment of Compound Fractures.**—During the last four years van Stockum of Rotterdam has treated as follows all of the compound fractures at the city hospital, of which he is the surgeon in chief All foreign substances are removed with sterile forceps, but the wound is not washed nor disinfected, and no ligature is applied unless a large artery is bleeding Balsam of Peru is then poured copiously into the wound, its penetration promoted by moving the limb a little The fracture is then reduced as if it were a simple fracture, and the wound is dressed with gauze impregnated with the balsam under an impermeable covering The limb is then immobilized in a plaster cast for three weeks, the dressing left undisturbed The temperature always rises at first, but not seriously, and subsides to normal by the fifth or sixth day At the end of the three weeks the mortified tissues are found mummified, the edges of the wound show no trace of redness nor swelling, the bones are found consolidating, and the wound granulating normally He seldom had occasion to apply the balsam more than once or twice in 90 cases thus treated, including 58 of the legs, 4 of the thigh, 15 of the arm, 2 of the pelvis, 1 of the patella, 2 of the calcaneum, and 8 of the lower jaw The treatment was a complete success in all but 4 cases In these there was some suppuration, but all recovered without a second operation except in one case, in which gas gangrene necessitated secondary amputation In 8 cases healing was delayed by the presence of a foreign body, causing a fistula, and requiring removal The effects of this treatment can not be due to any bactericidal effect of the balsam, but rather to its action in stimulating the living tissues They corroborate those obtained by Landerer in tuberculosis with cinnamic acid, one of the elements of Peru balsam

9 **Effects of Tuberculin Injected Immediately After Tuberculous Infection**—Marmorek attributes the effect of tuberculin to its action on the tubercle bacillus itself, not on the lesions it induces He believes that tuberculin in contact with the bacilli causes them to secrete an entirely different toxin which is responsible for the febrile reaction observed He has found it possible to induce this reaction by injecting tuberculin a few minutes after inoculating guinea pigs with tubercle bacilli Twenty hours after the inoculation there is no reaction to the tuberculin, probably because by this time the bacilli have been taken up by the phagocytes The reaction occurs again, however, after sufficient time has elapsed for the bacilli to regain their liberty by destroying the phagocytes in which they were enclosed

10 **Direct Examination of False Membranes**—Deguy and Patry affirm that the method of examination described has seemed to them in many cases more rapid and more exact than diagnosis from cultures The fibrin is dissolved out, and nothing is left but the stained microbes, grouped as they have been in the false membrane A scrap not larger than 1 to 5 mm of the false membrane, as thin as possible, is rinsed in distilled and sterilized water It is then stained with a mixture of 30 c c of an alcoholic solution of methylene blue and 01 c c of potassium in 100 c c of water It is left in contact with this solution for ten to fifteen minutes, and then rinsed again in distilled water, dried with blotting paper, and a drop of a 1/20 solution of potassium is placed on it and left in contact for twenty to thirty minutes The excess of fluid is removed with the edge of a piece of blotting paper, and then a drop of potassium silicate is placed on the specimen Another strip of glass is then placed over it and the whole is compressed by applying a weight or squeezing with forceps while the silicate is dried for ten minutes in an incubator The two glasses are then firmly glued together and the specimen is ready for inspection

### Semaine Médicale, Paris.

12 (XXIV, No 1) *Le traitement chirurgical des perforations de l intestin dans la fièvre typhoide M Cazin
13 *La colite muco sanguine ou fausse dysenterie des pays chauds, et son traitement D H Blanc
14 *Nouveaux faits sur les rayons *n* d origine physiologique A Charpentier (Nancy) From society report
15 *Action du radium sur les différents tissus J Danysz From society report
16 *Détermination du minimum perceptible et de la durée de la perception lumineuse chez les personnes dont la vue est affaiblie S Durand From society report

12 **Surgical Treatment of Typhoidal Perforation of the Bowel**—Cazin has been able to find on record 358 cases of perforation of the bowel in typhoid fever in which operation was performed The list includes one from his own experience and Keen's 158, as also the statistics of Mauger, Cariès, Junqua, Pédarré and Elsberg Of the entire number, 107 of the patients recovered, a proportion of 29 88 per cent Only 49 of the entire list were reported in France, the recoveries numbering 9 He pays tribute to the Americans as the leaders in this line He regards leucocytosis as of secondary importance for the diagnosis, as it is inconstant and tardy The hour of the intervention was mentioned in only 48 of the series of 63 successful cases, dropping all the incomplete and dubious records In 38 of this 48 the operation was undertaken within twenty four hours of the perforation, and only in 10 later than this One recovery is reported by Cardi with an interval of forty eight hours The patient was a girl of 13 with diffuse peritonitis following a typhoidal perforation about 10 cm from the ileocecal valve Depage has also reported the recovery of a woman of 42 operated on three days after the perforation He cut a V out of the intestine and closed the wound in the intestine with a suture in two

tiers. To relieve the distended intestine he made several capillary punctures, and the patient, whose condition had been desperate, recovered complete health. Ether or chloroform has generally been preferred to local anesthesia, and a very small amount proved sufficient for the purpose. The perforation was usually found in the last 50 cm. of the ileum, more rarely in the appendix, colon or cecum. In the 219 cases in which the site was mentioned, the laparotomy was lateral in 123 and on the median line in 90. A Lembert suture with silk was the general choice. Catgut is absorbed too readily, and in a few cases when it was used the suture gave way. Certain surgeons have freshened the edges of the perforation or resected the ulcerated zone, but Cazin does not regard this as essential, and it merely prolongs the operation. Owing to the friability of the coats of the intestine it is wise to take the suture through a fold, some distance from the edge of the perforation. Two rows of sutures with separate stitches will generally ensure the closure of the perforation. In one case Legueu utilized a piece of omentum to patch the hole with. A stercoral fistula developed the fifth day, but it healed spontaneously by the twentieth day and recovery was complete. Escher advocates suturing the lips of the perforation to the abdominal incision, to prevent danger of occlusion from paralysis of the intestines. Cazin thinks that the successes obtained by suturing the perforation at once render this procedure superfluous. In case the ulcerated zone threatens further perforations he would pack strips of gauze around it to wall off infection from the abdominal cavity in case further perforation should occur, rather than to inflict such a serious operation as resection of the bowel on the enfeebled patient. Leconte thus packed a case with several suspicious points, and thirty-six hours later a large mass of pus and feces was evacuated. The patient recovered and the fistula closed spontaneously in four weeks. When the peritonitis is already diffuse—as it generally is—the abdominal cavity should be copiously rinsed with hot saline solution. This indication is one of the reasons why general anesthesia is preferable. Multiple and efficient drainage should not be neglected.

13. **Treatment of Muco-Bloody Colitis or the False Dysentery of the Tropics.**—Blanc writes from Shanghai and describes the treatment which he has found most effectual for the diarrheic sickness which he calls false dysentery: Castor oil in the morning, no food until evening, when a soft-boiled egg or chicken broth is allowed, and at bedtime a goblet of a decoction of 60 gm. simaruba bark and 30 gm. cinnamon bark in 2,500 gm. water. Reduce to 2,000 or 1,750 gm. and add three tablespoonfuls of brandy. Four glasses are taken during the twenty-four hours for several days, adding a little laudanum if the stools are bloody. If there is nausea and vomiting, the second day the decoction is suspended and a dose of castor oil given instead. During convalescence castor oil is needed if thirty-six hours pass without stool. The food should be restricted to soft-boiled eggs, chicken broth, toast and boiled poultry. The after-condition requires treatment; healed ulcers reopen and require to be dressed. This local treatment is realized by bismuth internally to afford a protecting coating for the ulcerated walls, supplemented by systematic injections. He prefers for the latter a mixture of 10 gm. of bismuth subnitrate ground in a mortar, to which are added 1 gm. of gum tragacanth and 10 gm. of bismuth salicylate. When well ground together he adds 75 gm. of water and sets aside. He then adds later 425 gm. of water and filters through muslin. This injection is to be retained and repeated every second or third day, with boric acid enemata in the interim.

14. **Further Data in Regard to the N-Rays of Physiologic Origin.**—Charpentier announces that the emission of the *n*-rays by the living organism, mentioned on page 275 of the last issue, has nothing to do with heat, as they are emitted likewise by cold-blooded creatures. Contraction of a tendon does not increase the production of the rays along the course of the tendon, but only at its points of attachment. He ascribes this fact to the abundance of nerve terminals at these points. He has also found that compression of a nerve enhances its luminous properties. The functional activity of a nerve center is revealed by intensification of the luminosity over it. For instance, when the arms are moved the cervical enlargement of the spinal cord becomes more luminous. The center of Broca can also be located in the same way by having the subject speak in a low or loud voice. The results are less distinct with other centers. [These new rays were discovered in the laboratory at Nancy, France, where Blondlot is professor of physics. He called them the *n*-rays from the initial letter of the name of the city. Among their remarkable properties is that they pass through saline water, through lead .2 mm. thick, platinum .4 mm. thick, through tinfoil, a book of paper containing twenty-one sheets of gold leaf, mica, glass, paraffin wax and even sulphur, but they are arrested by pure water. Cigarette paper moistened with pure water will arrest the rays, while they will pass without hindrance through 4 cm. of normal saline solution. The rays are emitted by certain bodies, such as wood, glass and rubber, when forcibly compressed or twisted. Tempered steel, crystallized sulphur and hammered metals are permanent and spontaneous stores of the *n*-rays. Non-tempered steel is inactive. These and other properties of the rays are discussed in the *British Medical Journal* of January 9. Charpentier announces in still later research than the above that the heart, diaphragm and other muscles emit rays different from those emitted by the nerves, which are partly arrested by aluminum, while those from the former are not modified by it. Another difference is that the rays emitted by the nerves have a much stronger action on the phosphorescence of sulphur previously heated to 40 or 45 C. They are, therefore, not the true *n*-rays of Blondlot.—Ed.]

15. **Action of Radium on Different Tissues.**—Danysz relates experiences which show that the effect of the radium rays is more intense in young than in adult animals. He applies this fact to explain the selective action of the rays on neoplasms, while they traverse skin and muscle without appreciable action on them.

16. **Minimum Light Perception.**—Durand suggests the use of a gas flame as a test for the minimum of light perception and also its duration. The flame can be turned down gradually until the subject no longer perceives it.

### Deutsche medicinische Wochenschrift, Berlin and Leipsic.

17 (XXX, No. 2.) *Ueber einige seltene Lokalisationen des akuten umschriebenen Oedems. H. Quincke and A. Gross. (Commenced in No. 1.)
18 *Zur Pathologie und Therapie des Cardio-Spasmus. J. v. Mikulicz. (Commenced in No. 1.)
19 *Weitere Versüche zur Darstellung spezifischer Substanzen aus Bakterien. Cholerabazillen. M. Mayer.
20 Alterability of Valerian Preparations. M. Kochmann (Jena).—Ueber die Veränderlichkeit der Baldrianpräparate.
21 *Musical Heart Sounds. G. Galli (Baccelli's clinic, Rome).—Zur Lehre von den musikalischen Herzgeräuschen.
22 Zwei Fälle von Meningitis basilaris simplex. M. A. Lunz (Moscow).
23 New Method of Treating Lupus and Malignant Neoplasms by Means of Molecular Disintegration by Continuous Spark-Currents of High Frequency and High Tension. H. Strebel (Munich).—Eine neue Behandlungsweise für Lupus und bösartige Neubildungen mittelst molekulärer Zertrümmerung durch kontinuierliche hochgespannte, hochfrequente Funkenströme.

17. **Unusual Localizations of Acute Circumscribed Edema.**—Since Quincke described this condition in 1882 he has had occasion to observe a number of unusual cases. In 4 the circumscribed edema affected the deep connective tissue. In the first 3 there was swelling of the periosteum concomitant with transient edema of the skin. The ulna, radius, small bones of the hand and the brow were thus involved, the periosteum somewhat tender. In 2 of the cases the swellings subsided in one day, but in another they lasted several weeks. Radiograms of the limbs showed no abnormal shadow, confirming the assumption of edema. One of these patients was a child. The affection probably originated in intestinal autointoxication. The attacks in one alcoholic and one neurasthenic subject recurred occasionally and with no appreciable cause. The fourth patient was a young woman with well-compensated aortic insufficiency, who exhibited painful swellings of the periosteum of radius, humerus, ribs and frontal

bone, each lasting several days, but disappearing much more rapidly than would have been possible with true periostitis. The symptoms were evidently due to an acute angioneurotic edema of the periosteum and connective tissue. The headaches likewise noted may have been due to an angioneurotic hydrocephalus. In 3 other cases the larynx was the seat of the acute edema. One was a youth of 17 who had two attacks, neither very serious. The second patient was a workingman of 26 who had suffered from eleven attacks of idiopathic edema of the larynx, otherwise healthy. The absence of coughing and pain and the acute onset spoke against tuberculosis or syphilis, and the non-febrile course and absence of other symptoms, against erysipelas. In a third case the lower air passages were likewise involved, the patient a young woman, a cook. The onset of the edema was acute and threatening, and the dyspnea and signs of pulmonary edema were so intense that she was carried to a hospital within thirty minutes of the first symptoms. By evening the lung findings were normal, but the development next day of edema of the upper lip, spreading until the eye was closed, cleared up the diagnosis. She stated on questioning that she had had such attacks during the last six years, but never so severe as the present one. Wright, Müller and Jamieson have reported similar cases, and Schlesinger believes that a certain number of cases of bronchial asthma belong in this category. In a further series Quincke describes a circumscribed edema affecting the tongue or soft palate and extending apparently into the digestive tract. These 3 patients were men, 18 to 56 years old. The transient character of the gastric disturbances and their association with circumscribed edema of the skin implied the probability that they were of the same character. The edema of the uvula in the third case was not accompanied by pain or fever, and the neighboring tonsils and pharyngeal mucosa were apparently intact. The symptoms on the part of the stomach and intestines suggested a gastro-intestinal catarrh, with the difference that they developed spasmodically and were not accompanied by any pain or tenderness in the entire digestive tract. The vomit after the food had been evacuated was a large amount of strongly alkaline fluid containing quantities of albumin and a very little blood and bile. These findings suggested the possibility that the edema observed in the uvula had extended down into the digestive tract and induced the secretion of the peculiar fluid noted. The bleeding was minimal and probably only the result of the violent retching. The urine the first day was highly concentrated and contained large amounts of indoxyl, probably from absorption by the altered intestinal mucosa. No cause for the attack could be discovered. The patient was a physician, 56 years old, who had been well up to the moment of the attack, leading his usual, regular life, with appetite for his food. Three days previously he had eaten some oysters and mushrooms. He had never before had any symptoms after eating them, and none of the other persons at the banquet had apparently suffered. An incubation period of sixty hours seems rather long, but has been noticed in other ptomain poisonings. It is possible that the absorption of the poison from the mucous lining of the digestive tract may have acted on the vasomotor, especially the trophic nerves, and caused the attack, similarly to "strawberry" urticaria. No attack of the kind nor of acute cutaneous edema had ever occurred in the patient's experience nor in that of any other member of the family. It is evident that intermittent hydrops of the joints and angioneurotic hydrocephalus belong in the category of this acute circumscribed edema. The basal type is comparatively simple and easily recognized, although there may be transitional forms with urticaria and erythema multiforme. We can assume that the same process as occurs on the skin may develop on the mucosæ, periosteum and connective tissue, possibly also in the muscles. This circumscribed angioneurotic exudation may likewise be responsible for acute, transient, "rheumatic" pains in the muscles, and for many neuralgias, for migraine and for certain of the manifestations of hysteria, as also for some of the disturbances of central origin in the motor and psychic field.

18. **Stenosis of the Cardia as Cause of Dilatation of Esophagus and Cure for It.**—Mikulicz reviews in detail the physiologic data on which he bases his assumption that dilatation of the esophagus is due primarily to contraction of the cardia. He describes a simple contrivance with which he is able to determine the pressure in the esophagus and obtain insight into its functions and the behavior of the cardia. To prevent and cure dilatation of the esophagus and its train of evils he advocates forcible dilatation of the cardia, similar to Récamier's method of forcible dilatation of the anus in case of painful fissure. He had an instrument made for the purpose, to be operated through the mouth and esophagus, but could never bring himself to operate in the dark as he had at first proposed, fearing that he might lacerate the cardia, with fatal peritonitis or mediastinitis in consequence. He therefore preferred to operate by way of the stomach, and now announces that he has performed this operation in 4 cases and apparently with perfect success. His first patient was a workingwoman of 30, who had been under treatment for six years, and the condition was growing constantly more deplorable even after gastrostomy. The fistula was enlarged, the stomach opened to admit the hand freely and, under control of two fingers, a long, curved forceps, the blades covered with rubber, was worked into the tightly closed cardia for 4 cm. The forceps was then gradually opened until the maximal distance between the backs of the blades reached 6 cm. The cardia was then stretched to its utmost, but without trace of tearing either in the muscle or mucosa. Two fingers could readily be passed into the esophagus beyond the hiatus esophageus. The wounds in the stomach and abdominal walls were then sutured, and after fluid food for two weeks the patient was able to eat any kind of food, and has been free from all disturbances, and has gained remarkably in weight since the operation was performed, Feb. 7, 1903. The second patient was a Berlin merchant, 39 years of age, and since the operation, last July, he has gained over 50 pounds. The 2 other patients were operated on in last October and November. The functional result in each case has been perfect to date. The cause of the retention in the esophagus was removed at one stroke, and in the 2 earliest cases radioscopy shows that the dilatation of the esophagus is gradually retrogressing.

19. **Production of Specific Substances from Bacteria.**—Mayer has continued his research in this line, and states that it has been crowned with success in the case of both typhoid and cholera bacilli. The addition of a weak alkaline ammonium sulphate to both kinds of bacteria causes an autolysis which results in the passage into the filtrate of specific substances from the bacteria. The same result can be obtained with cholera bacilli by shaking them for six to forty-eight hours at room temperature. The serum of rabbits inoculated with the filtrates thus derived acquires remarkable bactericidal power.

21. **Origin of Musical Heart Sounds.**—Galli illustrates a case which establishes that it is possible for an aberrant muscle fiber to induce a musical sound when the wall of the heart is indurated and the course of the blood stream induces vibration in the fiber.

### Münchener med. Wochenschrift, Munich.

24 (L, No. 52.) *Importance of Normal Intestinal Bacteria for Man. J. Strasburger (Bonn).—Ueber die Bedeutung der norm. Darmbakterien für den Menschen.
25 Ueber mehrfaches Vorkommen der Taenia saginata beim Menschen (two of the parasites in case described). Riehl (Kissingen).
26 Taenia cucumerina s. elliptica bei einen 6 Monate alten Kinde (in infant). G. Sonnenschein (Olmütz).
27 *Alterations in Testicles of Animals After Exposure to Röntgen Rays. Frieben (Hamburg).—Hodenveränderungen bei Tieren nach R.-Bestrahlung.
28 Toxin und Antitoxin. P. Ehrlich.
29 Ibid. M. Gruber.
30 Reply to Volhard in No. 49. K. Glaessner (Ewald's clinic, Berlin).
31 Das Röntgen-Instrumentarium für den Praktiker. Walter. Ibid. Albers-Schönberg.
32 Wie lebt man in Egypten? Goebel (Breslau).
33 (LI, No. 1.) Ueber den Herpes zoster oticus. (Herpes an der Ohrmuschel mit Lähmung des Nervus acusticus und des Nervus facialis.) O. Körner (Rostock).
34 *Zur modernen Lehre der Eklampsie. E. Wormser (Basle).

35 *Ueber die Behandlung des frischen Dammrisses (of recent laceration of perineum). C. J. Bucura (Chrobak's clinic, Vienna).
36 *Fatigue Toxins and Their Antitoxins. Weichardt (Berlin).—Ueber Ermüdungstoxine und deren Antitoxine.
37 *Die Staphylokokken des chronischen Ekzems. F. Veiel (Neisser's clinic, Breslau).
38 *Exposure of Heart to Right of Sternum. E. Rotter.—Zur Herzfreilegung, auch rechts vom Sternum.
39 *Open Treatment of Wounds by Exposure to Sunlight and Dry Air. O. Bernhard.—Ueber offene Wundbehandlung durch Insolation und Eintrocknung (zugleich Einiges über klimatische Einflüsse des Hochgebirges).
40 *Hitherto Unknown Factor of Mountain Climate. Saake (Schöningen).—Ein bisher unbekanntes Faktor des Höhenklimas.
41 Ruptur eines Aneurysma und Unfallsrente (and accident insurance). Marckwald.
42 Modifikation der Beckmannschen Rachen-Kurette. A. Rosenstein (Breslau).
43 *Handcuffs for Narcoses. M. v. Holst (Dresden).—Handfessel zur bequemen Uebersicht und Ausführung von Narkosen.
44 *Treatment of Hemorrhagic Nephritis. Baccelli. Letter from Rome.

24. **Importance of Intestinal Bacteria in Normal Conditions.**—Strasburger ascribes great importance to the action of bacteria in breaking up the cellulose cover of certain of the articles of food. He also calls attention to the fact that in normal conditions putrefaction does not occur in the small intestine, but is restricted to the large. The same bacteria are found in each, but recent researches suggest that the carbohydrates are able to protect the albuminoids against putrefaction. The lack of putrefaction in the small intestine he, therefore, attributes to the combination of intestinal bacteria and of carbohydrates. As the latter do not reach the large intestine in the same proportions, the bacteria alone are unable to prevent the development of the microbes which induce putrefaction. The chemical and mechanical stimuli from the presence of the intestinal bacteria promote peristalsis. Cases of habitual obstipation usually show a subnormal amount of these bacteria, especially of the colon and lactic acid bacilli, which he regards as the most important of the normal intestinal flora. As long as the walls of the intestines are sound the bacteria do not penetrate them, but the products of their metabolism are liable to be absorbed and may be responsible for certain general disturbances, such as headache, fatigue and depression, and also for certain skin affections. Metchnikoff's recent remarks in regard to the superfluous length of the large intestine, and his suggestion that it might be dispensed with, are answered by Strasburger to the effect that he would rather live a few less years than live longer with a constant, chronic diarrhea, which would be the necessary consequence of the removal of the large intestine. He summarizes his arguments in the statement that it is not the task of the practitioner to free the intestines of bacteria. Our efforts should aim to maintain the normal bacterial flora in normal conditions and normal proportions.

27. **Alterations in Testicles of Animals Exposed to Roentgen Rays.**—All the male rabbits and guinea-pigs exposed to the Röntgen rays proved sterile thereafter, as was mentioned in the report of Albers-Schönberg's experiences recently mentioned. Frieben adds now that none of the other organs of the animals showed any naked-eye changes, but the testicles were invariably found shrunken to one-third or one-half their former size, but otherwise apparently normal. The microscope revealed, however, that the epithelium of the tubuli seminiferi had almost entirely vanished and not a trace of spermatogenesis could be detected. There was no evidence of inflammation, and the intertubular connective tissue was apparently normal. The most labile cells of the organ had manifestly been affected by a degenerative process under the action of the Röntgen rays.

34. **Modern Theories of Eclampsia.**—Wormser describes tests of syncytiolytic serum, made according to the various theories and technics of Veit, Ascoli and Weichardt, as well as Liepmann's and his own. The results were inconclusive and unexpected in several ways.

35. **Perineum Tears.**—Bucura states that it is the rule at Chrobak's clinic to suture the tear at once. The experiences of 1901 were 279 healing by primary intention out of 313 sutured at once (in 3,333 births). Of this number 5 were slightly febrile and 3 febrile cases. In 16 others the wound healed partly by primary intention, and in only 18 was the healing secondary. Of the total 313, 93.6 per cent., healed without temperature; 2.6 were slightly febrile and only 3.8 had temperature, and these included a number with pneumonia, ulcers or endometritis.

36. **Fatigue Toxins and Antitoxins.**—Weichardt has found that the expressed juice from muscles of over-fatigued animals, injected into other animals, causes toxic symptoms after a latent period of twenty to forty hours. This fatigue toxin is destroyed by a temperature of 56 C. The juice is not toxic at first, but gradually acquires toxicity during the first forty-eight hours, and then gradually loses it again until all has vanished by the end of the week. He thinks that the toxic quality develops in consequence of a fermentative digestive process in the aseptic muscle juice. This assumption was confirmed by the fact that the onset of toxicity could be hastened by keeping the juice at 37 C. Intraperitoneal injection of the toxic fatigue-muscle plasm conferred on the serum of the rabbits thus treated a marked antitoxic power. The antitoxic serum thus produced was able to neutralize the fatigue toxin *in vitro* and in the animal body in a most conclusive manner. It is very resistant. He is now engaged on research to isolate the various elements of the toxin, separating the fatally toxic from the merely fatiguing elements.

37. **Staphylococci in Chronic Eczema.**—Veiel finds constantly and exclusively in the early stages of chronic eczema a staphylococcus identical with the essential pus cocci. It is found almost exclusively in the later stages. He thinks that the absence of other germs in the early stages excludes a specific germ for eczema.

38. **Operations on the Heart.**—Rotter has collected 46 cases in which suture of the heart was attempted. The recoveries number 19, or 41 per cent. He remarks that the flap-door incision, with the base on the median line, can be made equally well on the right side. He gives several suggestions for the perfection of the technic, and adds that exposure of the heart by this method is simple, and may be found useful for resuscitation in case of sudden death.

39. **Sun, Air and Mountain Climate in Treatment of Open Wounds.**—Bernhardt commenced to practice in the Engadine in 1886, and was at once impressed with the way in which wounds healed there. This, in addition to the beneficial effect of the mountain climate on tuberculosis, suggested that the conditions most favorable for operative treatment and healing of surgical tuberculosis and open wounds in general seemed to be combined there. Fresh meat hung up in the open air and sunshine dries, while retaining its flavor, and the aspect of meat thus dried suggested to him a similar method of treating open wounds. His first case was a patient who had been stabbed at seven points in the abdomen. The spleen had to be removed and the laparotomy wound burst open the eighth day and could not be sutured again. The edges were approximated with plaster, and the wound exposed for hours to the almost continual natural sunshine. The wound healed rapidly, and the results were so unexpectedly favorable that during the two years since, this method has been applied in nearly every case of open wounds and of closed lesions not far from the surface, especially tuberculous joint affections. The sunlight is particularly powerful among the mountains, as the chemical rays are not absorbed by impurities or moisture in the air, and the secretions of the wounds rapidly dry up under the influence of the dryness of the air. The wound becomes covered with a parchment-like skin, which protects it as well as any dressing under the clothing. Deep pockets heal rapidly under this exposure to the sun and air, usually on a veranda or in a room with open window. He gives a number of cuts of various wounds thus treated, including a dynamite injury of the hand, exposing the bone at several points, which healed completely in five weeks; one of an ulcus cruris and one of a large septic "pocket wound," which healed to an almost linear scar in six weeks; also one of scrofuloderma. In a case of extensive burn on the leg, 39 by 20 cm., which had proved rebellious to Thiersch grafting, after three months of sunlight treatment the knee-joint can be flexed to 90 degrees and ex-

tension is normal. The burn was of the second and third degree. In a case of septic bursitis of the olecranon with extensive skin defect, healing was complete in three weeks, with no trace of contracture.

40. **Radio-active Factor in Mountain Climate.**—Saake refers to the emanation of radio-active substance from the air, which Elster and Geitel first described in the *Physikal. Ztft.*, in 1902. He has found that it averages three to five times as much in the mountains as at the level of the sea. The difference in tension between the positive air and the negative earth—the potential—also increases with the altitude. His experiments indicate that these electric and radio-active factors have some share in the benefits of the mountain climate and that they might possibly be artificially increased.

43. **Handcuffs for Narcosis.**—The hands are drawn near together above the head, and are held in this position by a strap on each wrist, connected by a third long strap, which hooks into a screw ring on the edge of the table below, just under the patient's head. The hands and arms rest comfortably on a cushion, and while they have considerable play, yet they are unable to obscure the field of operation or the face.

44. **Treatment of Hemorrhagic Nephritis and of Early Stages of Nephritis in General.**—Baccelli has been treating these conditions for twenty years by endeavors to relieve the venous congestion in the kidney, which he considers mainly responsible for them. Stagnation of the venous blood entails degeneration of the epithelium and loosens it from its foundation. If the blood pressure in the ascending vena cava can be reduced or rendered negative, then the stagnating blood in the kidney is sucked into the vein and the kidney is given a chance to recuperate. This effect is most readily realized by tapping some remote branch of the vein. He withdraws as much as 300 gm. of blood from the vena pedidia. The results are surprisingly favorable. In a very severe case described the centrifugated sediment of the urine could scarcely be distinguished from pure blood under the microscope, but after the venesection the albumin disappeared at once from the urine, the blood soon followed, and in a few days the child was entirely restored. The result is neither so prompt nor so energetic when the blood is drawn from the arm.

### Hospitalstidende, Copenhagen.

*Last indexed XLI, page 1123.*

45 (XLVI, Nos. 35 and 36.) *Pathologic Changes in Digestive Tract in Pernicious Anemia. K Faber and C. E. Bloch.—De patologiske Forandringer i Fordöjelseskanalen ved den pern. Anemi.
46 *Red Light Treatment of Smallpox. Niels R. Finsen.
47 (No. 37.) Public Measures for Combating Tuberculosis K. Faber.—Om "det öffentlige's" Forhold til Kampen mod Tub.
48 Medical Affairs in Greenland and Suggestions for Reform. A. Bertelsen.—Til Belysning af Laegevaesenets Ordnung i Grönland.
49 (Nos. 38 and 39.) *Experiences with Iodized Catgut M Claudius.—Erfaringer angaaende Jodkatgut.
50 *Om Emfysemet i Orbita. C. F. Heerfordt.
51 (No. 40.) Modern Principles of Hospital Construction. R. Blom.—Om de mod. Principper for Bygning og Indretning af Hospitaler.
52 Wire Basket for Object Glasses. R. Kjer-Petersen.—En Objektglaskurv. Bidrag til Tuberkelbacilfarvningens Teknik. One cut.
53 (No. 41.) Meisling's Kolorimeter anvendt til Hemoglobinbestemmelse. P. Liebmann.
54 Undersögelser over Virkningen af Mm. cricothyroideus og thyreo arytaenoideus internus. J. Moller and J. F. Fischer.
55 (No. 42 ) *Nogle Tilfaelde af Trichinose. G. Schroll.
56 (No 43.) *Formation of Uric Acid in Human Body. H. Trautner.—Over Urinsyrens Dannelse i det menneskelige Legeme.
57 (Nos. 44 46 ) Om Elephantiasis, saerligt Aetiologien, i Abledning af et Tilfaelde af Elephantiasis lymphorrhagica. P. Haslund.
58 (No. 47.) Stomach Content in the Aged. H. Seidelin —Undersögelser af Maveindhold hos aeldre Individer.

45. **Digestive Tract in Pernicious Anemia.**—Four cases carefully examined and those reported by others indicate, according to the opinion accepted by Faber and Bloch, that the diffuse gastritis frequently observed in pernicious anemia and the anemia itself are subordinate to some primary cause. The digestive tract otherwise appeared normal. The absorbing and secreting functions seemed to be unimpaired. The most plausible theory for the origin of pernicious anemia is the assumption that it is the effect of some poison generated in the organism, and that this poison affects most perniciously the blood and the stomach. The lack of pathologic changes in the digestive tract below the stomach is no evidence against the assumption that this poison is generated in the intestines. In the one case of bothriocephalus anemia on record in which the intestines were examined less than an hour after death, the absence of pathologic changes in the intestinal walls was likewise marked, and yet there could be no question that the poison was generated by the parasite in the intestines in this case.

46. **Red Light Treatment of Smallpox.**—Finsen's reply to Schamberg's article in The Journal of May 2, 1903, was published in full in a later issue, page 1207, of the last volume. He gives the same here in Danish, and adds a list of five communications that have appeared during 1903 on the red-light treatment of smallpox, and all report favorable results. Besides this, he has had reports of two small epidemics on the Faroe Islands and in England, in which the red-light treatment produced an unmistakably beneficial effect. Naunyn was especially favorably impressed with its action in 11 cases at Strasburg, although one exceptionally severe confluent case terminated fatally. Emmerson, in a private letter to Finsen, expresses himself much more favorably than in his published report of his experience in the *Medical Times and Hospital Gazette* of July 4, 1903. Five of his 11 patients had never been vaccinated. Carassa did not have any suppuration fever in his 6 cases thus treated, including 3 confluent ones.

49. **Iodized Catgut.**—This communication was read at the Madrid Congress and has aided in the wider adoption of Claudius' method of preparing catgut with iodin. He has never observed any symptoms of intoxication from its use, while the catgut thus prepared is proving ideal in many respects. The technic was given in The Journal of Feb. 7, 1903, page 412.

50. **Emphysema.**—On the ground of 2 clinical cases and 15 experiments on the cadaver, Heerfordt describes the mechanism and symptoms of this condition. The article is illustrated.

55. **Trichinosis.**—Six cases are described and the various diagnostic points reviewed. Schroll thinks that the mild and isolated cases are frequently unrecognized. The affection may simulate typhoid at first with its fever, diarrhea and general ill feeling. In some of the cases the fever, ill feeling and pains in the limbs were attributed to influenza for several days until the attention was attracted to the edema. One mild case was assumed to be merely manifestations of the uric acid diathesis, and while the patient was being treated on this assumption the other members of the family began to exhibit the same symptoms, and the edema of the eyelids then attracted attention. An intoxication or infection was then assumed, with a suspicion as to trichinosis. A confrère called in consultation derided the latter diagnosis, and remarked that he had a number of cases with precisely the same symptoms in his charge at the time. The presence of a small, mild epidemic of trichinosis was later established. The edema, tenderness of the muscles and their infiltration testified against influenza. A gastro-intestinal catarrh with diarrhea, abdominal pains, edema of the eyelids and pains in the limbs may simulate the clinical picture of mild trichinosis, as he portrays by a typical case described. The pains are not localized in certain muscles, however, and there is no sensitiveness to pressure, infiltration nor stiffness in the muscles. The affection subsides in a comparatively short time, and the other members of the family do not present the same clinical picture.

56. **Formation of Uric Acid in the Human Body.**—Trautner presents arguments in favor of the assumption that gout in its primary manifestation is a colitis mucosa, and that the colon bacilli generate in the feces some reducing substance which becomes transformed into uric acid in its passage through the blood. Consequently, he proposes the theory that the colon bacillus is the primary cause of gout, and works up a good argument to sustain it, first establishing that the amount of uric acid in the urine increases with obstipation, that considerable diuresis and high specific gravity indicate an increased proportion, that ingestion of large amounts of albuminoids seems to increase the percentage of uric acid in

the urine, and concludes with the assertion that the purin theory is scarcely tenable.

### Hygiea, Stockholm.

*Last indexed XLI, page 1123.*

59 (LXV, No. 10.) *Study of Growth in Height. E. Forssberg. Växlingar [illegible] längd.
60 Ett fall af [illegible] myxödem med utbredd psoriasis. O. Daiso.
61 (No. 11.) *Nagra ord om axeldragningstangen (torsion forceps).* E. Essen.
62 *Hernia efter appendicitoperation.* A. Karlow.
63 (No. 12.) Importance of Care of Convalescents and the New Endowed Convalescent Home in Connection with the Sabbatsberg Hospital. F. W. Warfvinge.—Om offentlig konvalescentvärd, etc.

**59. Study of the Height of the Body.**—Forssberg studies the length of the body in relation to age, sex, race, social standing and other particulars.

### Russkii Vratch, St. Petersburg.

*Last indexed page 346.*

64 (II, No. 31.) Protargol in Gonorrheal Affections of Cervical and *Uterine Mucosa.* V. N. *Orloff.—Lyetchenie protargolom* pereloinikh, etc.
65 *Organ Treatment of Tetanus. S. S. Virsaladze.—*Lyetchenie* stolbnyaka vpryskivaniami emulsii iz veshtchestva mozga zdorovykh zhevotnykh.
66 (No. 32.) *Importance of Bitters for the Digestion. P. Y. Borisoff.—O znatchenii gorkhikh sredstv dlya pishtchevareniya.
67 *Bechterew's Disease. L. M. Pussep.—*Odererenyelost* pozvonotchnika (bolyezn V. M. Bechtereffa).
68 Experimental Study of Physiology of Thoracic Portion of Vagus in Relation *to the Question of Acute Emphysema of* the Lung. M. B. Zilc.—O physiol. grudnogo otdyela bluzhdayushtchago nerva v svyazi s voprosom ob ostrom vzdutii legkikh.

**65. Organ Treatment of Tetanus.**—Virsaladze's communication is based on personal experience with 7 cases and the results obtained by others, as published in European literature, *especially in Slavonic publications.* Three died out of his 7 patients treated with injections of an emulsion of brain substance, and in one of the other cases the tetanus was of a very mild form. But the favorable outcome in the others and in those related in the literature indicate that this treatment has a promising future. He makes the emulsion as needed, using 15 to 20 c.c. of rabbit brain in physiologic salt solution, and injecting it subcutaneously. Four injections were made in four to nine days, and subjective improvement was marked, even after the first, in one typical case. The injections were accompanied by the usual measures. The 3 severe cases terminating in recovery were in patients 39, 52 and 23 years old. The fatal cases were in patients of 19, 16 and 46.

**66. Influence of Appetizers on the Digestion—Especially the So-Called Bitters.**—Borisoff gives curves and tables showing the influence on the secretion of gastric juice exerted by *giving his* est dog a little bitter substance *immediately* before his sham meal of meat. The dog has an opening into the esophagus and another into the stomach, according to Pawlow's technic for study of the digestive processes. The meat which he eats drops out through the hole in the esophagus, while the gastric juice flows out of the gastric fistula. Borisoff's previous research established the importance of the reflex action from the nerves of taste for the proper functioning of the secretory apparatus along the digestive canal. This view is corroborated by further tests of "bitters" as appetizers. He found that the secretions were increased by giving the dog a wad of cotton, soaked in tincture of gentian, immediately before giving him the meat. If the bitter was given as long as twenty minutes before, no effect was apparent. Others have established that large amounts of bitters have an inhibiting action on the gastric secretions. This latest research shows that a small amount, acting directly on the nerves of taste, immediately before the ingestion of food, has an unmistakable, stimulating effect on the secretory functions. The average amount of gastric juice secreted in 6 tests *without the* bitter was 101 c.c., while corresponding tests resulted in an average of 131.1 c.c. in 6 tests with the gentian. The amount obtained in the course of the two hours after the sham feeding ranged from 59.3 c.c. to 126.5 c.c. in the first series, and from 85.1 c.c. to 185.2 c.c. in the second series. He concludes from his research that the stimulant action of appetizers acting on the nerves of taste is now established beyond question, but that this stimulant action is very transient and is nullified if large amounts are used. The preferable method is in the form of "appetite drops," taking ten to twenty drops in a wineglass of water before each meal.

**67. Ankylosis of the Spine.**—Pussep draws sharp lines of distinction between the Bechterew and the Strümpell-Marie type. In a large table he gives the details of 28 cases of the former, as recorded by various writers, including 7 by Bechterew and 12 by other Russian writers, noting the condition of the reflexes, sensibility, muscle atrophy, etc. The article was presented at the Madrid congress.

### British Medical Journal, London.

*January 16.*

69 *Lumbago: Its Lessons and Analogues. William R. Gowers.
70 *Chronic Cyanotic Polycythemia with Enlarged Spleen. William Osler.
71 *Changes in the Spinal Cord in Diabetes Mellitus. R. T. Williamson.
72 *Note on the Tendon Reflexes in *Uremia.* W. Mitchel Stevens.
73 A Note on "*Brachial Neuralgia.*" *Howard Distin.*
74 Respiratory Spasm Followed by Cessation of Breathing in a Recently-born Child. Robert Fullerton.
75 Hysterical Paraplegia in the Male. Frederick Smith.
76 An Unusual Epileptic Case. W. Henry Lewis.
77 [illegible] with [illegible] Addi- George[illegible]
78 A Modified Operation of Castrat[illegible]
79 Intraperitoneal Abscess Due to [illegible] Boyd.
80 The Invasion Stage of Measles. [illegible]
81 A Case of Extreme Hyperpyrex[illegible] [illegible]ny.

**69. Lumbago.**—Gowers defines lumbago as an inflammation of the fibrous tissue of the muscles which by extension may involve the tendons, *and even the nerves,* the sciatic, for example. He calls special attention to a disorder similar in nature, but *differing in locality, which he calls muscular fibrositis* of the arm or brachial myalgia, characterized by pain in the muscles, not spontaneous, or only in a slight degree, but produced by contraction and tension, however slight. There may be tenderness to pressure also and the disorder may spread, as does the lumbosacral form, involving not only the nerve sheaths but the joint capsules. The brachial form is often mistaken and regarded as a neuritis when there is no nerve involvement. The familiar stiff neck is a milder form of this, and the muscles of the pharynx are sometimes involved. This muscular rheumatism is *more common in* the second half of life, and is often associated with gout. The brachial form he has seen especially in those who have an inherited tendency to gout, though not meriting its development by their habits of life. He also refers to traumatic fibrositis. As regards treatment *he insists on rest, special training* of the affected muscle, the use of aperients and rheumatic remedies, though they are much less effective in this condition than in rheumatism. The developed brachial form is often exceedingly obstinate. The *traumatic form of tendinous fibrositis when it* settled down to a stationary condition with pain on tension or even pressure resists *all treatment,* though it passes away in time like the other type, though the period may be long. Counter-irritation sometimes lessens the pain. Hypodermic injections of cocain seem to have a good effect.

70. *Chronic Cyanotic Polycythemia.*—Osler here describes a disorder which was noticed in THE JOURNAL, vol. xli, 44, p. 634.

**71. Diabetes Mellitus.**—Williamson calls attention to the slight excess of neuroglia tissue in Goll's columns, with a few scattered degenerated fibers in Burdach's columns and some degenerated fibers in the posterior nerve roots and posterior *horn. The spinal changes are probably* secondary to the altered blood condition in diabetes.

**72. Tendon Reflexes in Uremia.**—The exaggeration of tendon reflexes, especially knee-jerks and ankle clonus, in uremic conditions is noted by Stevens. He suggests that the exaggerated reflex is a symptom that may be of considerable diagnostic im*port in some cases.*

### The Lancet, London.

*January 16.*

82 *Some Forms of Chronic Abdominal Surgical Disease. E. Stanmore Bishop.
83 *[illegible] Functional Albuminuria. Samuel West.
84 [illegible] of Recurrent Mammary Cancer G. Ernest Herman.
85 The Preputial or Odoriferous Glands of Man. Arthur Keith and Arthur Shillitoe.

86 Carcinoma of the Duodenum; Resection; Recovery. G. A. Syme.
87 Question of Trypanosoma Infection in Man. F. Marchand and J. C. G. Ledingham.
88 Case of Lobar Pneumonia in Which the Physical Signs Persisted for Eight Weeks Accompanied by a Very Irregular Temperature. J. M. Bennion.
89 Atmospheric Temperature and Smallpox. David Sivewright.
90 Case of Rupture of the Left Auricle. F. W. Foot. With a Note by F. De Havilland Hall.
91 Notes and Comments on Five Cases in Which Chloroform Anesthesia was Carried Out by Dubious Apparatus. P. M. Chapman.

82. **Abdominal Surgical Disease.**—Bishop thinks cholecystitis may be caused by other organisms than the *Bacillus coli* and *B. typhosus*. In speaking of morbid changes in the large intestine he says that, in cases of painful defecation, attention should be directed to the anus and rectum. It is not safe to attribute the trouble to symptoms like hemorrhoids, etc., found there, but a complete rectal exploration is necessary. He mentions Houston's valves and the operations that have been suggested for the removal of the hypertrophy, growths in the sigmoid flexure and the treatment of mucocolitis. He speaks favorably of the operation of appendicostomy of Weir which has proven satisfactory in the one case in which he has used it.

83. **Physiologic Albuminuria.**—The conclusions of West's paper are summed up in the following:

> 1. Albuminuria may occur as a transitory symptom in persons who, except for this symptom, may be judged to be perfectly healthy, for they appear to be at the time and remain so. 2. But it may also occur in persons who though they appear at the time to be healthy develop signs of disease subsequently. 3. It is difficult to distinguish at a given time between those who will remain well and those who will not. 4. It is difficult to exclude for certain many of the pathologic causes to which the albumin might be due. In other words, though there may be no proof that these causes are present, there is equally no proof that they are absent, and in some cases the result shows that they were not absent. 5. Speaking generally, the larger the amount of albumin in the urine and the longer it persists the greater the probability of some permanent disease. 6. Continued observation of these cases shows that the so-called physiologic albuminuria does very appreciably increase the risk of life and that this risk grows rapidly with every year of age after 30 years. As the result of the foregoing proposition we are led to the general conclusion that functional albuminuria is never, strictly speaking, physiologic at all, but that it is, on the contrary, always pathologic though not necessarily renal.

### The Practitioner, London.

*January.*

92 Enteric or Typhoid Fever. William Broadbent.
93 *Enteric Fever, with Special Reference to Egypt. F. M. Sandwith.
94 *Enteric Fever in India. Andrew Duncan.
95 *Typhoid Fever in China. James Cantlie.
96 *Some Reflections on Enteric-fever Infection in Camps. H. H. Tooth.
97 *Channels of Typhoid Infection in London. George Newman.
98 Etiology and Prevention of Enteric Fever. H. E. Leigh Canney.
99 *Rigors in Typhoid Fever Apart from Any Recognizable Complication. Charles Bolton.
100 *Anti-typhoid Inoculation. A. E. Wright.
101 The Treatment of Enteric Fever. John W. Moore.
102 The Treatment of Enteric Fever. Herbert P. Hawkins.
103 *On the Importance of an Early Diagnosis of Perforation in Typhoid Fever. Hector Mackenzie.
104 *The Treatment of Typhoid Fever in the Johns Hopkins Hospital. Thomas McCrae.
105 "Paratyphoid" Fever. R. Tanner Hewlett.

93. **Typhoid Fever.**—Sandwith describes the conditions of typhoid fever in Egypt. The natives appear to be practically immune, especially in the rural districts, though during military service they are to a certain extent susceptible to it, but much less so than European soldiers. Europeans in Egypt have to use the same precautions against typhoid as elsewhere.

94. **Typhoid in India.**—Enteric fever appears to be common in India. Before the introduction of the Widal test it was largely overlooked among the natives as the symptoms appear to be somewhat different than those in European cases. He has only seen one classical enteric temperature chart in all his experiences there and that was in a native of the mountain regions. The classical temperature course is also rare in European cases.

95. **Typhoid in China.**—Cantlie says that typhoid fever is common among Europeans in certain cities in China and scarcely met with in others, and among the Chinese is rare anywhere. Of course, the statistics as to the Chinese are not complete, as they prefer their own physicians, though they go freely to the missionaries for surgical disorders. The method of preparing their food protects them. They eat very little uncooked food and drink but little but what has been boiled. The use of milk is rare. In Shanghai typhoid is very frequent, somewhat less so in Hong Kong. In the interior cities like Chunking, Chinkiang, Soochow, Ningpo and other places, it is hardly known even among Europeans. While the use of human fecal matter for manure is general in China, yet it undergoes fermentation and bacterial treatment in cemented tanks before it is used and it is possible that even the raw vegetables may not be dangerous as regards spreading the disease. The type of the disease in Hong Kong is rather unpronounced. Chinese children are subject to the infection, as has been shown by their experience in orphan homes under European management.

96. **Typhoid in Camps.**—Tooth discusses the subject of the cause of typhoid fever among soldiers and mentions, besides drinking impure water, the possibility of its conveyance by bathing, soil infection, sand storms, flies and the crowded condition of the tents.

97. **Typhoid Infection in London.**—Newman points out that while the case rate of typhoid in London remains fairly constant year by year, water-borne infection can not be considered the chief cause. Personal contact and shellfish, he thinks, are the main channels of infection. A further study in this line is required.

99. **Rigors in Typhoid Fever.**—Bolton discusses this somewhat unusual symptom, reporting a case and giving the temperature charts. Violent rigors usually indicate the presence of some toxic substance in the circulation. The case reported seems to support the theory that some intestinal irritation is in many of these cases responsible, though there is no doubt that the rigors may be excited by peripheral irritation. It does not appear that they materially affect the prognosis, though they produce trying effects on the patient. Their treatment must be on general principles, bearing in mind that they are not of such serious import as their appearance might lead one to think.

100. **Anti-Typhoid Inoculation.**—Wright's article appears here only in the first part describing the methods and the history of inoculation. He remarks on the cumulative effects of two or more inoculations. When the second one falls on a positive phase of the former inoculation, or on any period when the blood contains an increased quantity of antitropic substances, there is developed a cumulative high tide of immunity. When, on the contrary, the inoculation falls on a negative phase of the first, there is a cumulative susceptibility produced. In the second part of his paper he proposes to discuss the application of these principles to preventive inoculation.

103. **Typhoid Perforation.**—Mackenzie insists on the importance of early diagnosis and calls attention to certain confirmatory signs. Abdominal pain should be the most important danger signal. Vomiting, nausea, hiccough, repeated action of the bowels at short intervals, rigors, swelling, mental excitement or symptoms of perforation may accompany the pain. The doctor should be immediately summoned and should look for confirmatory signs; notice any change in the temperature, a sudden drop or rise, though steady temperature does not exclude perforation. There may be a change in the pulse, the beats becoming more frequent and weaker, though increased rapidity does not always follow. There may be a change in the facies, a pinched or drawn look, depression of the corners of the mouth, sinking of the eyes, blueness of the lips and swelling, but still more important is the abdominal pain, usually most marked over the lower half of the abdomen. Rigidity is exceedingly important. The presence of softness or flaccidity is always reassuring. Obliteration of liver dulness is a valuable sign if present, though not always free from ambiguity. If there is no tenderness, if the abdominal wall is flaccid, the liver dulness and the flanks normal, one may rest assured that there is no perforation. He thinks operation will be much more successful in the future than it has been in the past.

104. **Treatment of Typhoid.**—McCrae gives the treatment as followed in the Johns Hopkins Hospital. The diet consists chiefly of milk and albumin water. Sometimes ice cream, tea

and coffee and clear soups are allowed. Beef tea and the peptonoids are never given. If a change of diet is required, reduction or exclusion of milk is practiced, and only whey or albumin given. More patients are over- than under-fed. The necessity of giving large amounts of water is insisted on. Hydrotherapy by the Brand method is followed and the constant rubbing while in the bath is insisted on. The general management consists in giving the patients rest, while diet and baths are employed. A useful mouth wash is 1 to 20 solution of carbolic acid with listerine and glycerin, āā ℥i, and boric acid solution (saturated) ad ℥xviii, used after each nourishment. A condition of constipation is preferred and is the rule. If necessary the bowels are moved every second day by a simple enema. Alcohol is not given as a routine, most patients going on to recovery without a drop. It is given freely if there is any sign of toxemia or failing circulation. Many patients get *no medicine at all; none of the so-called intestinal antiseptics* is employed. Strychnin is administered for heart weakening *and sometimes digitalin, small doses of bromids and codeia* for headaches. In severe toxemia salol infusions are used if the patient can not take enough fluid by the mouth. Convalescence may be most troublesome. There is safety in not returning to solid food too soon. Soft food is taken after a few days of normal temperature and soft toast is added at the end of a week. From the seventh to the tenth day scraped beef or sweetbread is given. After this the diet is increased. The patient is usually propped up in bed about the tenth day and *allowed up in a wheel chair about three or four days later For anemia iron is given. The complications of hemorrhage,* cholecystitis, perforation, etc., are noticed. McCrae protests against giving opium in hemorrhage cases as it interferes with the diagnosis. In case of cholecystitis, operation not too much delayed is advisable, though it is often difficult to decide. In perforation early operation is insisted on. Disinfection of the urine is important; urotropin in 10 to 15 gr. doses ought to be given by the mouth until the urine is clear. Tender toes is a troublesome condition, and painting them with equal parts of iodin and *alcohol nearly always gives relief.* To sum up, a simple diet with *abundance of water, systematic baths, drugs given only when special indications arise*, are the important *points.* Special *attention* should be given to the recognition of early abdominal complications and prompt operative treatment when required.

### Journal of Tropical Medicine, London.

*January 1.*

106 *Cold* Weather Mosquito Notes from the United Provinces—Northwest India. (To be continued.) G. M. Giles.
107 A New Filaria in a Monkey. G. C. Low.
108 Calabar Swellings on the Upper Congo. S. H. Habershon.
109 Cholera on Assam Tea Gardens. William E. L. Elliott.
110 Morphologic Considerations on the Anterior Extremity of the Trypanosome. Jules Guiart.
111 Tropical Hygiene. (Continued.) W. J. *Simpson.*

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## Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these *volumes* will be made for review, as dictated by their merits, or in the interests of our readers.

The Practical Medicine Series of Year Books, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Vol. III. The Eye, Ear, Nose and Throat. *Edited by Casey* A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., Gustavus P. Head, M.D. December, 1903. Cloth. Pp. 332. Price, $1.50. Chicago: *Year Book Publishers.*

A Text-Book of Legal Medicine and Toxicology. Edited by Frederick Peterson, M.D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, *New York; and* Walter S. Haines, M.D., Professor of Chemistry, Pharmacy and Toxicology, Rush Medical College, in Affiliation with the University of Chicago. In Two Volumes. Fully Illustrated. Cloth. Vol. II. Pp. 750. Price, $5.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

.A Manual of Operative Surgery. By Sir Frederick Treves, Bart, K.C.V.O., C.B., LL.D., F.R.C.S., Sergeant Surgeon-in-Ordinary to H. M. the King. New Edition Revised *by* the Author and Jonathan Hutchinson, Jun., F.R.C.S., Surgeon to the London Hospital. With Upwards of 470 Illustrations. In Two Volumes. Vol. II. Half Morocco. Pp. 824. Price, $6.50 net. Philadelphia and New York: Lea Brothers & Co.

U. S. Department of Agriculture. The Available Energy of Timothy Hay. Investigations with the Respiration Calorimeter, in Co-operation with the *Pennsylvania* State College Agricultural Experiment Station. By Henry Prentiss Armsby, Ph.D., and J. August Fries, B.S. Paper. Pp. 77. Washington: Government Printing Office. 1903.

The Treatment of Fractures: With Notes on a Few Common Dislocations. By Chas. L. Scudder, M.D., Surgeon to the Massachusetts General Hospital. Fourth Edition, Thoroughly Revised. With Nearly 700 Original Illustrations. Cloth. Pp. 534. Price, $5.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The Distribution of Blood Vessels in the Labyrinth of the Ear of *Sus Scrofa Domesticus*. By George E. Shambaugh, Instructor in the Anatomy of Ear, Nose and Throat. Printed from Vol. X. The Decennial Publications. Paper. Price, $1.25. Chicago: University of Chicago Press. 1903.

Social Diseases and Marriage. Social Prophylaxis. By Prince A. Morrow, A.M., M.D., Emeritus Professor of Genito-urinary Diseases in the University and Bellevue Hospital Medical College, New York. Cloth. Pp. 390. Price $3.00 net. New York and Philadelphia: *Lea Brothers & Co. 1904.*

The Prevention of Consumption. By Alfred Hillier, M.D., C.M., B.A., Secretary of the National Association for the Prevention of Consumption *(London). Revised by Professor* R. Koch. With Illustrations. *Cloth. Pp. 226. Price, $1.50 net.* New York and Bombay: Longmans, Green & Co. 1903.

The Self-Cure of *Consumption* Without Medicine, with a Chapter on the Prevention of Consumption and Other Diseases. By Charles H. Stanley Davis, M.D., Ph.D., Member of the Connecticut State Medical Society. Cloth. Pp. 176. Price, 75 cents. New York: E. B. Treat & Co. 1904.

Third Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children, for the Year Ending September 30, 1903. Hospital Located at Tarrytown, N. Y. 1903. Paper. Pp. 28. *Albany: J. B. Lyon Company. 1904.*

The Blues (Splanchnic Neurasthenia), Causes and Cure. By Albert Abrams, A.M., M.D., (Heidelberg), F.A.M.S., Consulting Physician, Denver National Hospital for Consumptives. Illustrated. Pp. 240. Price, $1.50. New York: E. B. Treat & Co. 1904.

Chart of Acute Poisoning, Giving Descriptive Classification and Varieties, with Special Symptoms, Chemical and Physiologic Antidotes, Fatal Dose, Simple Tests and Remarks on Treatment. For Gratuitous Distribution. New York: Victor Koechl & Co.

*Prostatic Hypertrophy, from Every Surgical* Standpoint. By George M. Phillips, M.D., and Forty Distinguished Authorities. Edited and Compiled by S. C. Martin, Jr., M.D. Cloth. *Pp. 176.* Price, $1.75. St. Louis: Lewis S. Matthews & Co.

Lessons on Massage. By Margaret D. Palmer, Masseuse and Manager of the Massage Department of the London Hospital. Second *Edition.* Cloth. *Pp. 261. Price, $2.50.* New York: William Wood & Co. 1904.

The World 1904. Almanac and Encyclopedia and *Officially* Compiled Guide to the Louisiana Purchase Exposition. Paper. Pp. 541. Price, 25 cents. By mail, 35 cents. New York: Press Publishing Co.

Gynecological Nursing. By Netta Stewart, Sister in the Extramural Gynecological Wards of the Royal Infirmary, Edinburgh. *Cloth. Pp. 174. Price, $1.00.* New York: William Wood & Co. 1903.

Are We to Have a United Medical Profession? By Charles S. Mack, M.D., La Porte, *Ind.* 1904. Pasteboard. Pp. 44. Price, $0.25, *postpaid.* La Porte, Ind.: Herald Print.

The Nutrition of the Infant. By Ralph Vincent, M.D., Member of the Royal College of Physicians. Cloth. Pp. 295. Price, $3.50. New York: William Wood & Co. 1904.

Report of the Library Committee of the Faculty of Medicine, McGill University, Montreal, Canada, 1902-1903. Paper. Pp. 17. Montreal: Modern Printing Company.

Nineteenth Report of the State Board of Health of Wisconsin. *September 30, 1902.* Cloth. Pp. 304. Madison: Democrat Printing Company. 1903.

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### New Patents.

Patents of interest to physicians, January 5 and 12:

749014. Invalid sling. Perry W. Atkinson, Troy Center, Wis.
748581. Ear. Charles E. Carll, Indianapolis.
749128. Sterilizer. Arthur Castle, Rochester, N. Y.
748934. Machine for operating on corns. John E. Doldt, Portland, Me.
748708. Insoluble gelatinous product and producing same. Henry V. Dunham, New York.
748709 Casein cellulose composition and producing same. Henry V. Dunham, New York.
748732. Optometrist's trial-frame. Charles L. Hogue, San Francisco.
748752. *Shield for clinical thermometers.* Eugene O. Koeneman, Eldora, Iowa.
748636. *Receptacle for disinfectants.* Wm. L. McDonald, Chicago.
749078. Manufacturing ether. Otto Meyer, Richmond, Va.
748650. Pessary. Frank L. Priest, Dallas, Texas.
749547. Pasteurizing. Michael L. Fesenmeier, Cumberland, Md.
749180. Surgical *pan.* Wm. A. Galloway, Xenia, Ohio.
749555. Truss. Jacob Harris, St. Louis.
749689. Surgical instrument. Thomas A. Houghton, Rochester, N. Y.
749690. Massage instrument. Nicolay *Jacobsen,* Christiania, Norway.
749213. Electromagnetic device for vibratory massage. Eugen K. Muller, Zurich, Switzerland.
749220. Medicated tampon. Edmund M. Pond, Rutland, *Vt.*
749453. Attaching device for sanitary *napkins.* Charles H. Schopbach, Aurora, Ill.

# The Journal of the American Medical Association

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## Original Articles.

### THE INFLUENCE OF TRAUMA IN THE PRODUCTION OF MOVABLE KIDNEY.*

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The influence of trauma in the production of movable kidney is a subject of special importance to the railway surgeon who is so frequently called on to decide whether or not a movable kidney in a given case is the result of a certain injury or accident. It is a common belief of the profession, as well as of the laity, that a movable kidney is frequently the result of an injury. Most writers on the subject assign to trauma an important place among the etiologic factors, but few of them indeed offer any evidence, such as the report in detail of cases, or of reasoning based on pathologic conditions found, in support of their statements. It is evident, therefore, that the statement has been passed on from one author to another without the subject receiving the careful attention which it deserves.

Before entering in detail into this phase of the question, it will be necessary to consider the etiology in general of movable kidney. It was early observed that the large majority of cases occurred in women, and as movable kidneys were first discovered in women with lax abdominal walls, the result of repeated childbirth, it was at once concluded that repeated pregnancies were the cause of the movable kidneys. More extensive observations, however, gradually disclosed the fact that movable kidneys are much more common than at first supposed; that they frequently occur in the unmarried and in those who have never borne children, and, furthermore, that the right kidney is affected much more frequently than the left. Notwithstanding these facts, repeated pregnancies is still given as the most important cause of movable kidney by almost all authors. Of 126 women examined in order, it was found that those in whom the kidneys were not palpable or abnormally movable—55 in number—the average number of children born per woman was slightly greater than in those in whom movable kidneys were found—some 71 in number. Of 107 cases of movable kidney in women, from the author's records, 40 were single and 65 married, 2 not stated. Of the 65 married women 12 had never borne children; in other words, of 105 women with movable kidneys 52 had never been pregnant and 53 had borne one or more children.

These facts show conclusively that pregnancy in itself is not a material factor in the production of movable kidney. That retrodisplacements and prolapse of the uterus and vagina with lacerations of the perineum are material factors in the production of movable kidney, as stated by some, is likewise disproved by the above facts.

Another commonly stated cause of movable kidney is rapid absorption of the perirenal fat, but there are no facts in support of this statement. On the contrary, clinical experience, as well as observations at the operating table and in the dead-house, are opposed to it. Such a cause should be equally operative in both sexes, but we know how rare the affection is in man as compared to women. The condition is not observed to follow acute wasting diseases, nor is it more common in emaciated subjects. While in some cases the amount of perirenal fat found at operation is small, in others it is abundant, and in the dead-house a small amount of perirenal fat is frequently found without a movable kidney. Movable kidneys are so frequently found in young women who have never been pregnant; whose pelvic organs are normal; whose abdominal walls are firm and, therefore, no diminution of intra-abdominal tension present; who are not emaciated and who have never received any material injury; that all who have given the matter any serious thought and study have been compelled to seek other causes for the condition. The more the subject is studied the more it becomes evident that those in whom movable kidneys are found are defective in bodily form, that they deviate in some particular from the highest normal type.

Thus the investigations of Wolkow and Delitzin show deviations in the anatomic configuration of the posterior abdominal wall. The paravertebral niches in which the kidneys lie and which in the normal well-built individual are deep and show a distinct pear- or funnel-shape, are shallow and of cylindrical shape in those with movable kidneys, thus favoring displacement of these organs. Albarran[1] ranks movable kidneys with the bodily stigmata of degeneracy, and Stiller finds them associated with dilatation of the stomach and a loose tenth rib, which he likewise considers a sign of degeneracy. Becker and Lenhoff[2] found that the least abdominal circumference was much smaller in proportion to the body length in those with movable kidneys than in normal individuals, and the author in a paper[3] read before the American Surgical Association in 1901 demonstrated by a series of careful measurements of the body form that there was a distinct relative contraction or diminution in the capacity of the middle zone of the body in all individuals with movable kidneys. For the method and details of measurement I refer to my article above mentioned. Of 107 cases of movable kidney that I meas-

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* Read by invitation before the American Academy of Railway Surgeons at Chicago, Oct. 1-2, 1903.

[1] Ann. des. Mal. des. Org. Gen.-urin, 1895.
[2] Deutsch. med. Woch., 1898, xxiv, 508.
[3] THE JOURNAL A. M. A., June 1, 1901.

The class of cases, however, which most frequently comes before the railroad surgeon is of another kind. Of course, many cases of severe and serious injuries are encountered in railroad surgery, but those in which movable kidney is alleged to have resulted are usually not of the severer kind. The most frequent accidents are falls while alighting from or attempting to board cars; jars and general concussion from collisions, or by reason of the cars jumping the track, etc. In the majority of cases the movable kidney has not been discovered for some weeks or months after the accident, when the case has been worked up by the personal injury lawyer and doctor. The influence of these latter factors on the patient is often very great, and might furnish the basis for a very interesting study.

But laying all such questions aside for the present, let us consider what influence, if any, trauma may have had in the production of movable kidney in these cases. I have analyzed 1,300 cases of railroad injuries that have come under my supervision during the past two years. Of this number 728 were males and 572 females. Although several of the males presented symptoms indicating injury to the kidney, there were no cases of movable kidney observed. Among the 572 females there were 41 cases of movable kidney in which the question of a traumatic origin arose. The ages of these patients ranged from 16 to 62 years; 28 were married and 13 single. Both kidneys were movable in 9 cases, the right alone in 32. In no case was the left kidney alone found movable. In 20 cases measurements of the body form were made, and all without exception possessed the characteristic body form with contraction of the middle zone.

It should be remembered in considering the details of these cases that they were all suits for damages. The manner in which the injury was received was based on the patient's own statements, and at times was not borne out by the evidence. It is well known, too, that the patient's statements as to symptoms, previous state of health, etc., must be received and weighed with great care and judgment, for they often have not the same significance and value as the statement of a patient seeking relief of a physician under ordinary circumstances.

Of the 41 cases 9 were seen and examined within thirty days after the accident.

Case 1.—Miss B., aged 21, single. While she was standing up in a car, about to get off, the car bumped into a car ahead and she was thrown against an upright post, striking the right side of the abdomen. She got on another car and rode several miles down town; she had a hysterical fit and was taken home. I examined her the next day. She was a slender woman, of nervous temperament. Pulse 82. Temperature 98.2. No bruises were to be seen anywhere on the body. The right kidney was movable to one inch below the umbilicus. It was not tender nor painful on motion.

Case 2.—Mrs. D., aged 31, married, was riding in a buggy which was struck by a passing car. She was thrown forward and got her foot caught in the spokes of the wheel, spraining her ankle. She was pregnant four months, but did not miscarry. She was examined six days after the accident. There were no objective evidences of injury except that to the ankle. Right kidney was movable to the second degree.

Case 3.—Mrs. J. W., aged 22, married, in a collision was thrown forward and backward, then fell on the floor. She continued on her journey, remained away visiting all day and night, and returned home next day. She was not laid up at all, but claimed injury to her back, a sprain of the lumbar region, and bruises of her back, right elbow and both legs. Examination 13 days after the accident showed no bruises about back or elbow. There were two small bruised spots on the legs. The right kidney was movable to the second degree, and not tender. There were no symptoms referable to the kidney. The contracted middle zone was shown by measurement.

Case 4.—Mrs. F. A., aged 22, married. The car in which she was riding collided with a wagon, and she was thrown back in her seat. She was frightened because she saw someone fall off the car. She was seven weeks pregnant and miscarried five days later. Examination 18 days after accident showed that she had recovered nicely from the miscarriage. The right kidney was movable to the second degree, but there was no tenderness or soreness about it. No bruises were found anywhere about the body.

Case 5.—Mrs. S. S., aged 21, married, was thrown to the floor of a car by a collision. She fractured the right forearm and bruised her right side. Her physician stated that he found a small amount of blood in her urine soon after the accident, but when examined 17 days after the accident the urine was normal. The right kidney was movable to the second degree. It was somewhat tender, but was not enlarged, nor was there any enlargement or thickening about it.

Case 6.—Mrs. N. D., aged 32, married, in a collision was thrown forward, then backward. She struck first on the front of the chest and epigastric region, then on the elbow, arm and back. The injury complained of was to her elbow, arm and shoulder, with tenderness in the epigastric region. Examination 23 days after accident showed the right kidney movable to the second degree, bruises of the arm at the shoulder and the elbow. There were no symptoms of injury to the kidney.

Case 7.—Miss S., aged 27, was sitting in a car, the side of which was struck by another car; this jarred her back. She was menstruating at the time. Her physician said he discovered a movable kidney very soon after the accident, and that she had blood in the urine, which in all probability was simply the menstrual blood. Examination 27 days after the accident showed the right kidney movable to the second degree. Measurement showed typical body form.

Case 8.—Mrs. S., aged 26, married, was getting on a car just as it started. She did not fall but swung around. She claimed a wrench of her side and her hips, although she did not feel anything at the time. She was not laid up, and had no physician. She complained of backache and pain in her side. Examination 27 days after accident showed a nervous, anemic woman, with characteristic body form and both kidneys movable to the second degree. The uterus was retroverted and the patient had leucorrhea.

Case 9.—Mrs. K., aged 61, married, asserts that while walking on the street she was struck by a car, knocked down and rolled under the fender. She was able to get up alone, went home in a car and was in bed ten days. She asserted that her whole right side was bruised from her neck down. Her physician said he found blood in the urine; that the right kidney was pushed out of its capsule; that she had two attacks of uremia from kinking of the ureter; and that he was obliged to massage the kidney back into place. When examined 27 days after the accident she was up and visiting friends. No bruises of any kind were to be found. The right kidney was found movable, but the urine was clear.

These 9 cases were examined so soon after the accident, and the kidneys were found so very movable and so free from unusual tenderness that it is very evident that in none of the cases was the accident the cause of the mobility. The injuries received were not severe in any of them, Case 5, with a broken forearm, being the worst perhaps in this respect. Case 9, which at first glance seems to show a causal relation between the injury and the movable kidney, must be rejected. The statements of the patient and her physician were not believed, for reasons which need not be mentioned. The case was afterward settled for a very nominal amount.

There were 6 cases which were examined within three months after the accident.

Case 10.—Mrs. M., aged 57, married, fell on her right side while getting off a car. She claimed womb trouble with frequent urination as a result. Examined two months after the accident, there was found a laceration of the perineum with prolapse of the uterus and vagina. She had had eight children. There was a very pendulous abdomen with general visceral ptosis and a movable right kidney. It was very evident that none of these conditions resulted from the fall, and the case is therefore rejected as showing causal relations.

Case 11.—Mrs. G., aged 25, married, fell on her left side and abdomen while getting off a car. She was two months pregnant and miscarried. She had had two children. Examination, a little over two months after the accident, showed a laceration of the perineum, a tender uterus, prolapsed ovaries, and the patient pale, weak and nervous. The right kidney was very movable to the third degree and somewhat tender. As she had been in bed most of the time since the fall on account of the miscarriage, and as there had been no symptoms referable to the kidney, it was very evident that such a high degree of mobility could not have been produced by the fall.

Case 12.—Mrs. T., aged 36, married, was thrown from a car while turning a corner and struck on her left side, shoulder and hip. She was examined less than two months after accident. Five years ago she had been ill with peritonitis for six weeks, and had had pain and soreness in abdomen since. She was very nervous and hysterical. There was a small bruise over the sacrum. The right kidney was very movable. There were no symptoms referable to the kidney. The movable kidney was undoubtedly of long duration.

Case 13.—Mrs. W., aged 31, married, did not fall, but in getting on a car she was swung around against the side of the car. Her injury was not severe in any sense. Examination two and a half months after accident showed a very characteristic body form and both kidneys movable to the second degree. There was a marked pulsation of the abdominal aorta. No possible connection could be found between the injury and the movable kidneys.

Case 14.—Mrs. M., aged 40, a widow, owing to sudden stopping of a car was thrown forward, then backward, striking her right side against the seat. She was in bed four weeks. There were no symptoms of injury to the kidney. She complained of loss of hearing, headache and pain in the right side. Examination three months after the accident showed diminished hearing in both ears from chronic middle-ear trouble and the right kidney movable to the third degree. The high degree of mobility and the marked contraction of the middle zone show clearly that the kidney had undoubtedly been movable many years.

Case 15.—Mrs. P., aged 29, married, fell to the floor as the car in which she was traveling started, injuring her right knee and her left side. She complained of the knee and of excessive flowing. Examination three months after the accident showed an injury to the right knee, a prolapsed left ovary and chronic endometritis. The right kidney was movable to the second degree. The nature of the injury and the lack of symptoms excludes the accident as the cause of the movable kidney.

There were 5 cases examined from four to six months after the accident. Of these cases, 16, 17 and 18 gave distinct histories of movable kidney existing before the accident, and can therefore be excluded. They are:

Case 16.—Mrs. B., aged 34, married, was thrown out of a carriage and the carriage wheel passed over her right hip. She had chronic heart disease, lacerations of the cervix and the perineum, and double movable kidneys, right to the third degree, left to the first degree, all dating before the accident.

Case 17.—Mrs. H., aged 40, a widow, fell while getting off a car, striking her left hip. The right kidney was found movable to the second degree. Characteristic body form present. She had felt a lump (kidney) in the right side from before the accident.

Case 18.—Miss N., aged 26, fell in a sitting position in getting on a car. Her injury did not incapacitate her. Double movable kidneys, the right to the second degree, and the left to the first degree. The symptoms dated back long before the accident. Characteristic body form found.

Case 19.—Mrs. B., aged 30, married, was alighting from a car when it started. She held on to the hand rail, then fell on her back. She was in bed six weeks and asserted that her uterus had been displaced, but the physician had corrected same. She was a thin, emaciated subject with pulmonary tuberculosis. The uterus was in good position. Right kidney movable first degree; there were no symptoms.

Case 20.—Mrs. H., aged 50, married, was thrown off a seat by the car starting and struck her left knee, side and shoulder. Both kidneys were distinctly movable and the left one tender. The nature of the injury was such that it could not possibly have produced double movable kidneys, although it may have added to the tenderness of the left one.

The remaining 21 cases were examined from six months to three years after the accident.

Case 21.—Miss R., aged 22, was standing when the car started, causing her to fall against the stove, then against the knees of sitting passengers. She bruised her right knee, hip and shins. After riding several miles home, she was in bed one month. She was examined 6 months after the accident. She asserted that she had a great number of nervous symptoms. She was tall and slender and had the characteristic body form and a very movable right kidney. A retroverted uterus was found, also inflammation and thickening of right tube and ovary with considerable leucorrhea from infection. The injury was not severe, but the patient was a hysterical neurasthenic.

Case 22.—Mrs. S., aged 28, fell from a car by reason of a collision with a wagon. She bruised her right hip and had hemorrhage from the womb and was in bed ten days. She was a nervous patient, with a long history of irregular menstruation, frequent urination, backache, etc. She showed the characteristic body form and had a tender right kidney, movable to the third degree. An enlarged, tender, prolapsed right ovary and a laceration of the cervix were also found. She had two children, aged 6 and 3½ years.

Case 23.—Miss K., aged 24, struck left knee against seat in getting on a car, but did not fall. She developed marked symptoms of hysteria. There was no possible connection between the injury and a very movable right kidney.

Case 24.—Miss S., aged 20, was thrown against the door frame in attempting to get out of the car. Her real injury was slight, and she was more frightened than hurt. She gave a history of repeated attacks of Dietl's crises with vomiting for some years before the accident. They were called "bilious attacks." These attacks continued after the accident and were supposed to be due to an appendicitis produced by the accident. Six months after the accident the appendix was removed but without benefit, as attacks still continued. The sensitive movable right kidney had not been discovered. She had a typical body form.

Case 25.—Mrs. H., aged 36, was thrown from a car while rounding a curve and injured her right knee, which laid her up three months. She said her right kidney was dislocated by a fall from a car six months previously. Examination showed the uterus retroverted, a laceration of the cervix, the right kidney movable to the first degree. No relation existed between the injury and the movable kidney.

Case 26.—Mrs. S., aged 35, in getting off a car was swung around, striking her left side against an upright. She did not fall and did not think she was hurt. Examination showed a lateral curvature of the spine, the characteristic contracted middle zone and the right kidney movable to the third degree; left one movable to the first degree. She complained of numerous symptoms characteristic of neurasthenia. The movable kidney was undoubtedly of long standing.

Case 27.—Mrs. P., aged 32, was shaken up somewhat by the car jumping the track. She said that she did not think at first that she was injured. The next day pains developed in the abdomen and back. Examination showed a heavily loaded colon from constipation. The right kidney was freely movable. There was the typical body form. The real injury here was too slight to have had any effect on the kidney.

Case 28.—Mrs. —, aged 55, fell in getting off a car and struck on her hip and back. She was in bed two months with pain in hip, back and shoulder. The right kidney was movable to the first degree with a positive index; the mobility was evidently of long standing.

Case 29.—Miss R., aged 26, fell from a car alighting on her feet, then on left side. She was in bed nine weeks with pain in the spine and the hip. She was a frail, slender woman, very constipated, had marked dysmenorrhea and general nervous symptoms. Her right kidney was movable to the second degree.

Case 30.—Miss A., aged 29, was thrown down while getting on a car and fractured her left humerus at about the center. She has lateral curvature of the spine with slightly deformed chest. Both kidneys were movable, the left worse than the right. There were no symptoms of injury to the kidneys.

Case 31.— Mrs. D., aged 27, when a car jumped the track, was thrown to the floor, then struck back against car seat. Patient was in bed two and a half months with pain in back, back of head and neck, and left side of the abdomen. She had dysmenorrhea, never had been pregnant. The right kidney was found movable to the second degree. There were no symptoms referable to the kidney.

Case 32.—Miss R., aged 16, was knocked down by a car and rolled under the fender. She was able to get up and walk to the station after the accident. Her physician said that the uterus was displaced by the accident and he replaced it. At examination the uterus was found in normal position. The right kidney was movable to the second degree and the characteristic body form was present. There were no symptoms of injury to the kidney.

Case 33.—Miss H., aged 21, was thrown from a bicycle and fractured her left arm near the elbow, bruised her back and leg and was rendered unconscious. She was in bed three weeks. Examination showed a lateral curvature of the spine and a right kidney movable to the first degree, positive index. There were no symptoms referable to the kidney at any time.

Case 34.—Mrs. R., aged 37, was thrown forward while alighting from a car and cut her left leg. She asserted that exophthalmic goiter resulted from the accident. She has had one child since. Examination showed an old adenomatous goiter, which she had had for some years. There were no symptoms of the goiter. The right kidney was movable to the second degree. There were no symptoms of injury to the kidney. Typical body form was found.

Case 35.—Miss W., aged 30, fell down and was struck by a car in the region of the anus. She asserted she was laid up eight months with rectal trouble and during that time was operated on for hemorrhoids. Two months after the operation she had a perirectal abscess. Examination showed a right movable kidney and characteristic body form. The case is very suspicious.

Case 36.—Mrs. M., aged 41, was thrown to the ground, striking on her right side. She was in bed two weeks on account of a bruise to her right knee. elbow and side of body over the lower ribs. She had had ten children. Her abdomen was loose and pendulous. The right kidney was movable to the second degree; left kidney first degree. She had frequently noticed a swelling or a tumor in her right side, which disappeared again; evidently the right movable kidney and certainly of long standing.

Case 37.—Miss A., aged 22, received a fright in a collision and claims she was stepped on. Her real injury was slight, but she developed hysterical spells. The right kidney was movable to the first degree.

Case 38.—Mrs. H., aged 26, in a collision, was thrown from her seat and said that passengers stepped on her. She was able to get up and walk home without difficulty. She miscarried at the third month and was in bed six weeks complaining of nervous symptoms. Double movable kidneys were found, but there were no symptoms of injury to them.

Case 39.—Miss G., aged 20, jumped from a car and fell. She had a very movable right kidney with Dietl's crises—certainly antedating the injury.

Case 40.—Mrs. R., aged 38, was struck by a car and knocked down. She miscarried at the second month. She had had seven children and one miscarriage. She showed on examination very marked visceral ptosis with a movable right kidney, third degree, which was undoubtedly of long standing.

Case 41.—Mrs. S., aged 37, was struck by a car and knocked down, bruising her right arm. She had six children. Examination showed a very hysterical patient with retroversion of the uterus, a laceration of the perineum and a movable right kidney.

After carefully analyzing these 41 cases, taking into account the injuries and the manner in which they were produced, the symptoms, the examination of the patients, etc., one is forced to the conclusion that not in a single case is it at all certain, nor even probable, that the kidney was made movable by the accident. It should not be concluded, however, that a kidney already movable may not be injured by violence, as well as one that is normally fixed, or that symptoms connected with a movable kidney may not be aggravated by injury, but the most probable explanation of many of these cases is that the injury but made manifest or called attention to a movable kidney which had existed for some time without giving rise to symptoms or without being recognized. It is a well-known fact that many women have movable kidneys for years without experiencing any special symptoms connected thereto, and that symptoms may appear after a slight injury, as a fall, or after a spell of sickness or unusual fatigue, or even after a nervous shock. I recently had a case illustrating this:

A young married lady of 26 years was hastening to catch a train. She tripped lightly and fell, but did not hurt herself *in the least*. She caught her train and while making the *journey a collision occurred*. She received no physical injury whatever, but was considerably frightened. She was about two months pregnant at the time. A few hours later she had an attack of pain in the right side of the abdomen. During the next year and a half she had several similar attacks at irregular intervals of a few weeks. Examination disclosed a movable *right kidney*, to which her attacks were undoubtedly due; but it would be *ridiculous to say that the collision or fright* was in any way responsible for the movable kidney.

From a careful study of the subject, I present the following conclusions:

1. Movable kidneys occur in women with a particular body form, and practically all women with this body form have movable kidneys of greater or less degree.

2. Movable kidney is not produced immediately, but requires time for its development.

3. While it is possible to injure, crush or suddenly displace by violence a normally fixed kidney, such displacement is always accompanied by laceration of the perirenal tissues, which is manifested by distinct local and general symptoms.

4. Severe injuries involving the kidney or perirenal tissues are seldom or never followed by movable kidneys. Sterns says he has not been able to find a single case in the literature where such a result occurred.

5. A movable kidney is never the immediate result of a single trauma.

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**Additions to Medical Knowledge.**—I have always thought (and not without reason) that to have published for the benefit of afflicted mortals any certain method of subduing even the slightest disease was a matter of greater felicity than the riches of a Tantalus or a Cresus. I have called it a matter of greater felicity; I now call it a matter of greater goodness and of greater wisdom.—*Sydenham.*

# THE NERVOUS PHENOMENA ASSOCIATED WITH MOVABLE KIDNEY.[*]

WHARTON SINKLER, M.D.
PHILADELPHIA.

It is only within a comparatively recent period that the attention of the profession has been directed to the frequent occurrence of movable or floating kidney, and it is within a still more recent time that the importance of the symptoms arising from this condition has been appreciated. The frequency of movable kidney is a point on which there has been wide diversity of opinion. All authorities agree that movable kidney is much more common in women than in men, and it is also agreed that it most frequently occurs between the ages of 25 and 40 years, and is rarely found in girls before puberty. It is also most common in women who have been pregnant. Some writers state that this condition of the kidneys is found in 25 per cent. of women who are examined for pelvic, dyspeptic or other troubles, while others regard the condition as comparatively rare. Franks[1] insists on a distinction between floating kidney and movable kidney. The former, he says, is very rare and is a pathologic curiosity, while the latter is common. Floating kidney is a congenital condition and the organ is freely movable in the cavity of the abdomen, it is surrounded by peritoneum and is possessed of a mesonephron. Movable kidney is an acquired condition and the organ is mobile behind the peritoneum.

When looked for in the cadaver, the kidney is not often found displaced, and this is probably due to postmortem conditions, the kidney having a tendency to settle into its normal position, and the fatty capsule surrounding the organ becomes solidified and helps to hold it there. Epstein states that movable kidney was found only five times in 3,658 postmortems, and Landau in an examination of hospital records from 1870 to 1879 found reports of only 4 cases out of 6,999. On the other hand, Lindner[2] asserts that in his experience, one out of every five women has a movable kidney, and Mathieu out of 306 women examined in hospitals, found movable kidney in 85, or 25 per cent.

There is no doubt that a kidney which is displaced to only a slight extent is overlooked, and in the detection of a movable kidney, much depends on the manner in which the examination is made. It is the experience of every one to have found at one examination that the kidney was so much out of place that its whole outline could be readily traced, while on the next occasion it may have been impossible to feel the organ at all. Lindner gives the following as his method of examination for displaced kidney: He stands at the right side of the recumbent patient, places his right hand against the anterior abdominal wall and then presses the left against the back of the lumbar region so as to push the kidney forward. The patient is then placed on her right side with the knees drawn up; by sharply shaking the body, the kidney, if movable, will fall forward. He says that frequent examinations are sometimes necessary to detect the abnormality.

Noble[3] declares that an examination of a patient lying down is a most unreliable way for determining the presence of movable kidney, and he believes that this condition is frequently overlooked if the examination is not made when the patient is standing. His method is as follows: "The patient's clothing should be loosened, all bands about the waist unfastened and the skirts supported by a nurse or assistant so that the patient will not be embarrassed with the fear that her clothing will fall off. She should then stand before a table or desk of convenient height, about thirty inches, with the examiner seated on her right. The patient then bends forward from the hips, and supports some of her weight by resting her hands on the table. She is directed to respire regularly, care being taken to relax herself thoroughly during the expiration. The examiner's left hand is placed against the lumbar region posteriorly and his right hand in a corresponding position in front of the kidney. By a conjoint manipulation, the region between the two hands can be carefully palpated and if present, the kidney is easily recognized." The points to be looked after are the shape and size of the kidney and the fact that it can be readily displaced upward beneath the margin of the ribs, and that it will return to its former location as soon as the examiner's hands no longer support it. When the kidney is compressed, as a general rule, the patient complains of tenderness or pain of a peculiar character, and often makes the statement that the pain causes her to feel faint and somewhat nauseated. In some cases the manipulation will be more successful in the knee-elbow position.

The causes of displaced kidney have been variously assigned to falls, pregnancies and tight lacing, but it is probable that these conditions are only indirectly causative, as there must be some predisposition to displacement in order to effect a marked change in the position of the organ. Probably the most common predisposing cause is the lack or loss of adipose tissue. It is undoubtedly true that movable kidney is usually seen in women who are thin or emaciated. Possibly one reason for its more frequent detection in thin women is that in them it is easy to palpate the whole abdomen, while in stout women the difficulties are great, but it is no doubt true that movable kidney does not occur so frequently in stout women as in thin.

The kidney has no proper ligaments, but is embedded in a thick cushion of fat which aids in keeping the kidney in place and there is also a large amount of connective tissue which binds it to the loin behind and to the abdominal viscera in front. Anything which causes absorption of the fat will necessarily allow greater mobility to the kidney. The right kidney is much more frequently displaced than the left, although occasionally it is found that both kidneys are displaced. Schutze found in 73 cases the right kidney displaced 65 times—the left 18 and in both 14 times. Noble says that he has never seen a case in which the left kidney was displaced independently of the right.

The symptoms of movable kidney are for the great part reflex in character, but there are also those which are local or due to mechanical action. The principal symptoms connected with displaced kidney are pain and dyspeptic and neurasthenic disorders. It is interesting to note that the symptoms are by no means in proportion to the degree of displacement of the organ. It frequently occurs that in cases where the displacement is only slight, the reflex symptoms are most marked. Noble has called attention to this and also to the fact that in this it is analogous to pelvic disorders. He thinks that the explanation is that in extreme displacement the nerves become overstretched and the circulation has had time to adjust itself to the changed condition.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

[1] Twentieth Century *Practice of Medicine*, vol. ix, p. 781.

[2] Sajous' Annual, 1889, vol. 1. G., p. 21.

[3] Gaillard's Med. Jour., 1895, vol. lxi, pp. 59, 65.

The degree of pain varies from a dull aching to acute lancinating pain. It is usually referred directly to the region of the kidney and is more or less constant. In many cases it is uncomfortable or painful for the patient to lie on the side opposite the displaced organ. If there should be a twist or kink of any kind in the ureter, this will give rise to intense pain and eventually to hydronephrosis. Should complete rotation of the kidney occur, not only is the ureter compressed, but the renal vessels and nerves are also involved. The result is agonizing pain, with collapse, nausea, cold sweats and scanty urination. In short, most of the symptoms of renal colic are present.

Neuralgic pains in different parts of the body are complained of. Irritable bladder is common and so also is pain in this organ, which begins in the kidney and passes down the ureter into the bladder. Dysmenorrhea is frequently associated with movable kidney, and there are also symptoms referred to the ovaries and bladder of a dragging character or weight, which are really due to a displaced kidney. There are frequent disturbances of the liver and gall bladder as a result of mechanical dragging by the kidney and symptoms closely resembling those of gallstones are not unusual in connection with movable kidney. Dyspeptic symptoms are almost constantly met with in cases of displaced kidney. They may vary in degree and kind from slight indigestion and flatulence to intense nausea and pain. In connection with gastric disturbances are found palpitation of the heart and other disturbances in the action of this organ.

Intestinal disorders are also common. In some cases there is marked mucous colitis with its distressing local and general symptoms. What are popularly called bilious attacks frequently occur in patients with movable kidney. In these attacks there are headache and vomiting of large quantities of bile stained mucus. The gastric symptoms have been attributed by one writer to the direction of the displaced kidney and the pressure of this organ on the stomach, but this is hardly a satisfactory solution of the case. It is more likely that the gastrointestinal symptoms are reflex rather than mechanical.

A recent writer, Dr. Sherman Thompson Brown,[4] has reported two instructive cases of pancreatic diabetes, which he believes were due to misplaced right kidney. In both cases nephropexy was performed. Both patients made an uninterrupted recovery and from the time of the operation no sugar was present in the urine in either case. In the interesting article which this writer has presented, he goes fully into the anatomy of the pancreas, duodenum and kidney. He explains the intestinal and pancreatic disturbances in displaced kidney by the pulling upon the duodenum and the colon with the duodenum where it crosses the kidney, and the pressure of the misplaced organ. In his cases, he believes that the glycosuria was due to dragging on the pancreas by the kidney.

Edebohls[5] believes that movable or displaced right kidney is directly responsible for almost every case of appendicitis. He, as is well known, is a strong advocate for operations to anchor the kidney. It would seem, therefore, that movable right kidney is held responsible for nearly all the ills to which flesh is heir.

The most common symptoms associated with movable kidney are disorders of the nervous system, such as hysteria, neurasthenia and mental depression. It must be borne in mind, however, that at least 50 per cent. of the cases of movable kidney present no symptoms whatever, and that, therefore, we can not expect to find in every neurasthenic woman a displaced kidney. At the same time there is such marked causative relation between movable kidney and neurasthenia that it behooves us to examine every woman presenting neurasthenic or hysteria symptoms, for the position of the kidneys. It is not necessarily the case that there is severe pain complained of in connection with the nervous systems, for frequently it is found that a neurasthenic woman has not experienced any pain or discomfort in the region of the kidney, nor has she been aware of any malposition of the organ.

Probably the most constant nervous disorder in a patient with displaced kidney is neurasthenia. Such patients are thin and in addition to general neurasthenic symptoms, suffer from much gastric disorder. There are in some cases, attacks of severe epigastric pain with retching like the gastric crises of tabes and often there is gastric pain which comes with regularity one or two hours after eating and large quantities of gas are belched up simulating gastric ulcer. The usual remedies for indigestion and flatulence afford little or no relief. Some patients find that lying down and kneading the right side gives ease. Bloating from distention of the bowels with gas is a common symptom, and this is frequently accompanied with palpitation of the heart and pain in the precordia. These patients also have more or less pain in the region of the affected kidney, which is generally of a dull aching character, and is often attributed to intestinal disturbances. The patient sleeps badly and the sleep is broken and disturbed by dreams. Any form of exercise, even walking or driving, is liable to cause pain and aching in the right hypochondrium and considerable exhaustion. Patients with movable kidney are also extremely nervous and irritable, and are often in a condition which makes them not only uncomfortable to themselves, but a burden to their friends. In some cases, the various manifestations of hysteria may be presented. I recall one patient whose right kidney was so much displaced that it could be readily outlined in the region of the umbilicus, who had severe hysterical seizures in which she became unconscious and raved.

There are various reflex hysterical disturbances met with in movable kidney. Of course, there may be only an accidental association between these conditions, but from the fact that after an operation for fixation of the kidney these symptoms disappear, it is evident that there is more than a coincidence between the symptoms.

Hypochondriasis and mild mental disturbances like melancholia are sometimes associated with movable kidney, but these conditions occur only in cases of long standing.

These nervous phenomena rarely occur in men, but when they are met with in that sex they are very intense. The treatment of movable kidney is palliative or radical. In a certain proportion of cases, the application of abdominal belts with properly adjusted pads seems to afford relief, but in the majority of instances the use of any kind of apparatus is entirely unsatisfactory, as it is most difficult to get a belt which can be made to fit accurately. Many cases in which the amount of displacement is moderate in degree, are greatly benefited by the rest treatment, and even cases in which there is a considerable displacement of the organ are distinctly benefited by such a plan of treatment. Every case of displaced kidney should have the benefit of systematic and intelligently directed rest treatment before resorting to operation. All the procedures connected with the rest treatment tend to benefit cases with movable kidney. As long as a patient is on her back the kidney remains in a normal position. By improving the general nutrition of the body, the weight is increased, and this will add to the deposit of fat in all the tissues and restore that which has been lost by absorption from the envelope of the kidney, and thus secure it in its proper condition.

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[4] Phila. Med. Jour., April 4, 1903, p. 594.

[5] Amer. Jour. of Obstet., 1895, vol. xxx, p. 161.

In addition to these mechanical influences from rest treatment, the isolation, regimen and moral influences which are brought to bear on the patient, relieve the nervous and neurasthenic symptoms which are present, in almost every instance.

In cases in which there is true floating kidney or much displacement of the organ, and in which the rest treatment has been faithfully tried without benefit, operation should be resorted to. There are also cases in which, for various reasons, it may be undesirable to adopt rest treatment, and in these, nephrorrhaphy may be resorted to at once. The operation has been performed in various ways by different operators. The five principal methods are as follows:

1 The sutures may be passed through the fatty capsule alone.

2. They may be passed through the fibrous capsule of the kidney.

3. They may be passed through the substance of the kidney itself.

4. The capsule may be split and dissected off and this stitched to the lumbar muscles.

5. The substitution of gauze packing for sutures to hold the kidney in place until the formation of permanent adhesion of the kidney in its new position, the wound being left open to heal by granulation.

The object in all of these is to fix the kidney in the loin. The operation has now been performed a great number of times with marked success as to retaining the organ in position. The mortality is exceedingly small. In 134 cases collected by Keen,[6] there were four deaths, giving a death rate of 2.98 per cent. The experience of most operators has been that the kidney remains in position after it has once been fixed by operation. Edebohls states that in 193 operations upon 186 patients, in none of the cases did he find the kidney misplaced on subsequent examination. Henry Morris states that in 98 operations for movable kidney, he has not reoperated on a single patient.

The ultimate results of nephrorrhaphy as regards the symptoms, depend to a considerable extent on the nature of the case. The pain, weight and dragging is almost invariably relieved by an operation. The immediate effect on disorders of the digestive system is not always satisfactory and it often is a considerable length of time after the operation before these symptoms are relieved. Flatulent dyspepsia and constipation often remain for a long time, and the same may be said of the nervous phenomena. Few cases are immediately relieved of neurasthenic and hysteric symptoms immediately after operation, and it is not reasonable to expect that such symptoms would disappear at once. As a rule, they have lasted for a long time, and the neurasthenic and hysteric condition has become established in the individual. We cannot, therefore, expect that these symptoms will be relieved without suitable treatment being pursued for a reasonable length of time. It is, in operations for movable kidney, just as it is in operations for ovarian disease in patients who have become neurasthenic. The cause of the trouble may have been removed, but the disease which has been induced does not disappear without proper treatment.

I will only relate two cases to illustrate what has been dwelt on in the foregoing remarks.

Case 1.—Mrs. A., aged 40, mother of four children, has for several years suffered from a number of symptoms of neurasthenia. She has had flatulent dyspepsia and suffered from constipation. She has been very nervous and has become unable to perform her duties at home. She has lost much flesh and is far below her normal weight. The right kidney was found to be markedly displaced, and could be readily outlined. There is apparently little local pain. She was treated systematically by the rest cure, and gained flesh and lost her neurasthenic symptoms. Fifteen years later she was seen, and stated that she remained in excellent health.

Case 2.—Mrs. B., aged 25, has for several years suffered from severe attacks of bilious vomiting associated with headaches and pain in the right hypochondrium. She has been neurasthenic, irritable and emotional. She has constant dragging pain in the right side of the abdomen, most marked just below the margin of the ribs. She had frequent attacks of mucous enteritis. The right kidney was found to be movable and readily outlined. The patient was thin but not anemic. A course of rest treatment was followed by improvement in her general symptoms, but after a few months she had almost as much pain and suffered from as frequent attacks of bilious vomiting as before. In September, 1902, she was operated on by Dr. John B. Deaver and the kidney was fixed in position. She made a satisfactory recovery from the operation and all of her symptoms have gradually disappeared. She has gained flesh and has comparatively little trouble with her digestion, and while not entirely free from pain, has so much less that it gives her but little inconvenience. She has gained markedly in weight.

## DISCUSSION.

**Dr. A. P. Ohlmacher**, Gallipolis, Ohio—Dr. Sinkler has referred to the difference between the figures of the pathologist and those of the clinician as to the frequency with which movable kidney is met. This discrepancy is, perhaps, partly due to the fact that it is not the routine custom to look for this anomaly in making an autopsy. The displacement is usually best made out with the body in the recumbent position, but if the autopsy is not made immediately after death, the fixation of the tissues tends to anchor the kidney, as well as the other intraperitoneal contents. If one will take the pains to grasp the kidney in its peritoneal covering, it will frequently be found that the range of movement varies greatly, and in this way one can sometimes detect a movable kidney. My attention has frequently been called to this in cases where the mesentery was unusually long and associated with a displaced stomach and colon, and on examining the kidney it would be found in its normal position, but it could be very readily drawn out and sometimes displaced for a considerable distance. I was rather surprised that Dr. Sinkler has laid no stress on the association of movable kidney with movability of other abdominal organs, that is, to a splanchnoptosis. This association is so common that I am sure it deserves some consideration. The digestive symptoms to which he referred are frequently the result of an associated gastroptosis, and are not referable to the kidney condition proper. In a like way the intestinal symptoms are often referable to displacement of the colon.

**Dr. R. C. Moore**, Omaha—The number of cases of movable kidney that we come across in general practice is astonishing, and it has become my custom when I am called to see a patient who has any symptoms pointing to the abdomen, to invariably look for floating kidney. The general symptoms, as Dr. Sinkler has described them, do not point to any disorder of the pelvic organs, but more especially to the gastro-intestinal tract. The author also referred to the connection of appendicitis with this trouble. This form of appendicitis comes under the head of colic of the appendix, and an operation on the movable kidney will not cure the trouble in the appendix. After the kidney is anchored, it becomes necessary to perform a second operation on the appendix. These cases of appendicitis are non-suppurative in character at the onset, but there is a constant danger that infection may take place. In examining for movable kidney, the upright position allows it to fall forward, but it is often very difficult to map it out on account of the rigidity of the abdominal walls. My custom is to have the patient sit on a chair and bend forward so that the abdominal muscles become relaxed. If the kidney is displaced, it can usually be made out by examining in this position.

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[6] Trans. Amer. Surg. Assn., 1890.

Dr. J. L. Miller, Chicago—In quite a large percentage of cases of movable kidney of the second or third degree we also find gastroptosis. The latter condition does not always give rise to gastric symptoms. Many of these patients have shown marked improvement on the application of a suitable bandage; in others, an operation was necessary. Before we can say that these patients are cured, it is necessary to keep them under observation for a long time, as relapses are not uncommon. The neurasthenic symptoms will be apt to return even if the kidney has been restored to its proper position. The beneficial results of the treatment, as far as the nervous symptoms are concerned, are, I believe, largely due to suggestion.

Dr. A. R. Elliott, Chicago—I have been astonished at the frequency with which I have found gastroptosis and enteroptosis associated with movable kidney. These patients sometimes fall into the hands of the gynecologist, who may, perhaps, find and repair an old rupture of the perineum without relieving any of the patient's abdominal symptoms, which are the result of an abdominal ptosis. A satisfactory abdominal support and measures directed toward a proper regulation of the digestive functions with promotion of the general muscular tone, give the best results in these cases.

Dr. A. C. Croftan, Chicago—I think it is difficult to determine whether floating kidney is ever the cause of neurasthenic symptoms. I have never seen such a patient cured by the replacement of the kidney alone. There is usually in these cases general abdominal ptosis, and often associated with this condition is a loose floating twelfth rib. Whether the neurasthenia and the relaxation of all the abdominal supports are both effects of the same cause, or whether the latter determines the former, is often difficult to say. Theoretically, one might imagine that splanchnoptosis, with the resulting derangements of function, might cause certain vague general symptoms that can be conveniently included under the gaping category of neurasthenia; sympathetic irritation may also possibly be incriminated. The anchoring of a loose kidney or uterus, however, can hardly be expected to cure the patient. I certainly never hesitate to send my neurasthenics to the abdominal surgeon even if the kidneys were loose.

Dr. F. Savary Pearce, Philadelphia—I believe that in a great many cases of floating kidney, associated with general splanchnoptosis, the whole process is the result of depressed vitality in a neuropathic subject. The treatment should be directed first along neurologic lines—to repair the nervous system, and when the patient's general condition is improved, it is certainly advisable to put the organs back into their proper places. As to the gastro-intestinal symptoms being necessarily due to an associated gastroptosis or enteroptosis, I am not willing to subscribe to that theory, because I have seen two cases of undoubted floating kidney with marked gastro-intestinal symptoms in which there was no displacement of the stomach or bowels. The gastric symptoms, under such circumstances, are probably at least partially of reflex origin, or they may be the result of a nervous dyspepsia. The ideal treatment is to remedy the nervous condition. I have never found much benefit from the use of a belt.

The ethics of the American Medical Association do not interfere with any physician in the exercise of good business sense, and they are seldom criticised except by those who wish to dodge.—*Alkaloidal Clinic.*

# A CONSIDERATION OF THE NEUROSES OF STATUS LYMPHATICUS.*

A. P. OHLMACHER, M.D.
GALLIPOLIS, OHIO.

Status lymphaticus, otherwise known as the lymphatic constitution, lymphatic diathesis, lymphatism, etc., is a so-called constitutional disorder, characterized by a persistence or hyperplasia of the thymus, general lymphadenoid hyperplasia, frequently associated with cardiac and arterial hypoplasia, and evidences of rachitis. The principal morbid anatomic features of status lymphaticus are a persistent or hypertrophic thymus, general or regional lymphadenoid hyperplasia including the lymphoid elements of the spleen, hypoplasia of the arteries and heart, very often with the osseous changes of rachitis. Occasional or accessory features are a thick skin, edema of the skin, lungs or brain, hypertrophic thyroid, hypertrophy of the brain, hypoplasia of the sexual organs, and lymphocytosis. A pronounced general active hyperemia is usually discovered in lymphatic individuals dying suddenly.

That there is a close morbid anatomic association between status lymphaticus and rickets has been abundantly proven, particularly in the case of lymphatic infants. Still we are not at present in a position to say that all cases of status lymphaticus are associated anatomically with the rachitic dyscrasia, nor do all cases of rickets exhibit the evidences of lymphatism, though its coincidence with enlarged spleen and hyperplasia of the mesenteric nodes is well known. In infants dying in the lymphatic state a mild grade of craniotabes, the rosary, curvature of the long bones or spine, and enlarged epiphyses have been manifested as rachitic osseous changes; and in older children or adults several instances of rachitic spinal curvature, pigeon breast, narrow pelvis, and curvature of long bones have been found.

It will not be germane to our present purpose to enter into details concerning the morbid anatomy of the lymphatic state, and your attention is therefore invited to several peculiar clinical manifestations of status lymphaticus which I have ventured to class as its neuroses. The first of these is sudden death, which, because of its morbid anatomic association, shall be designated thymic or lymphatic sudden death. An abrupt lethal ending in victims of lymphatism is not an uncommon phenomenon, both in infants and young adults. It occurs under various circumstances, as by a sinking spell with or without convulsions in the presence of spectators, during sleep ("found dead in bed"), during a bath or while swimming, in surgical narcosis, or during the performance of some minor operation as the removal of the tonsils or adenoids, extraction of teeth, injection of curative sera, or following certain hydrotherapeutic measures. This phase of our subject is discussed in detail by such writers as Grawitz, Paltauf, Pott, Nordmann, Kundrat, Escherich, Gallatti, Ewing, Blake and others.

That lymphatic sudden death should be looked on as an abruptly fatal neurosis seems entirely permissible, and the term "Nervenschlag," used by the Germans to describe its mode of onset, is equally suggestive. Moreover, in cases that have come under accurate observation, convulsive phenomena have been described as ushering in the fatal event, and some of the accounts recall to one's mind the similarity between the abrupt assault of an attack of major epilepsy and the sudden spasm of lymphatic sudden death.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

Infantile eclampsia is, to my mind, another neurosis whose anatomic affinity with status lymphaticus will be more fully elaborated as our knolwedge increases. The association of teething fits and rickets is generally conceded, and in a few instances in which search was made with that particular end in view, status lymphaticus was disclosed at autopsy. Personally my experience is limited to two cases, in one of which a six months' infant died during general convulsions of the kind usually designated "teething fits," and in the fresh material from the autopsy sent to the laboratory the enlarged thymus and lymphadenoid hyperplasia of status lymphaticus were readily disclosed. In another case of a young infant dying in convulsions, the formalin-preserved specimens which came into my possession for study revealed the changes of the lymphatic state in a degree even more striking.

Closely united in clinical analogy with the eclampsia of infancy are spasm of the glottis (laryngismus stridulus, etc.), and infantile tetany (carpo-pedal spasm). These neuroses have repeatedly been associated with the rachitic dyscrasia and, more recently, it has been found that the anomalies of status lymphaticus could be disclosed on proper autopsic examination. Without reviewing the familiar clinical characteristics of these affections, therefore, it becomes of interest for us, in the present connection, to recall that each of the three neuroses—eclampsia, glottic spasm and infantile tetany—are in some way related to lymphatism, as has been pointed out, especially in the papers by Pott and Escherich.

In the course of my studies in the pathology of epilepsy pursued at the Ohio Hospital for Epileptics I have become impressed with the frequent coincidence of idiopathic epilepsy and status lymphaticus; and it seems to me justifiable to assert that idiopathic major epilepsy is a neurosis of the lymphatic state in the same relationship that lymphatic sudden death, infantile eclampsia, tetany, and spasm of the glottis are so considered. Epilepsy and teething fits have long been regarded as sustaining a clinical affinity, and the same has been asserted of epilepsy and tetany, glottic spasm, and (by my own endeavors) lymphatic sudden death. Moreover, on purely clinical grounds, epilepsy has been classed as a neurosis of rickets. In view of these considerations, therefore, it may be asserted with reasonable assurance that these neuroses exhibit both a clinical and morbid anatomic kinship and that their anatomic basis is the lymphatic or rachitic dyscrasia.

As to the morbid physiology of this interesting group of nervous diseases and the attempt to reconcile them with status lymphaticus as the morbid anatomic basis, data are still meager. The German writers have recognized the neuropathic element in these affections, whence the term "Nervenschlag" to describe the attacks. Sudden death is regarded as a reflex cardiac paralysis, the increased susceptibility of the heart to various forms of irritation being a part of the lowered vital resistance incidental to the constitutional disorder. Escherich considers a latent irritability of the central nervous system to be characteristic of the lymphatic constitution, causing reactions in the form of spasmodic conditions in various parts of the body in response to trifling stimuli. He would regard the constitutional disorder as the expression of an incomplete or perverted metabolism, that is, as a dyscrasia or chronic intoxication comparable with Basedow's disease or myxedema.

Gallatti directs attention to a peculiarity of status lymphaticus which, in my opinion, is a factor of importance in explaining some of the clinical phenomena, viz., the peculiar predisposition to edema. This, as Gallatti asserts, is shown by the pasty condition of the skin, by the tendency to eczema, and by the occurrence of edema of the brain. I would add, from my observation on lymphatic epileptics dying abruptly in a single seizure or from rapid status epilepticus, edema of the lungs as another one of the manifestations; an observation already made by Kundrat in a case of sudden death during chloroform anesthesia, by Langerhans in the case of his son's sudden death after a prophylactic antitoxin injection, and by Paltauf in at least one of his cases of sudden death. Gallatti holds that slight factors like autointoxications of various kinds may incite this tendency to edema into activity. Piedecocq, in his belief that sudden death in infants with hyperplastic thymus is due to increased intracranial pressure resulting in compression of the medulla, is evidently on the tack taken by Gallatti, though he wishes to ascribe the increased cerebral pressure to compression of the great vessels in the neck caused by a backward flexion of the head aggravating the pressure already exerted by an enlarged thymus.

Whatever its mechanism, I am, from my observation on lymphatic epileptics and my reflection on these studies, strongly disposed to the belief that a periodic increase of intracranial pressure acting either on the exterior or interior of the brain, or on both portions simultaneously, and manifesting itself as a result of the tendency to edema characteristic of status lymphaticus, is a directly provocative factor of such neuroses as spasm of the glottis, tetany, infantile eclampsia, epilepsy, and the various forms of sudden death incidental to the lymphatic state. According to this view the clinical phenomena would depend on the extent and location of the intracranial edema, or, in other words, on the portion of the encephalon particularly subjected to pressure. In event of compression of the external portion of the cerebrum various convulsive disorders of the motor apparatus are provoked; when the balance of pressure becomes so distributed as to raise the intracerebral pressure other severer symptoms occur, ending, in case of sufficient pressure on the floor of the fourth ventricle, in sudden respiratory or cardiac failure. Granting the hypothesis just advanced, we are brought one step nearer the explanation of the modus operandi of several obscure neuroses whose kinship has repeatedly been recognized on purely clinical grounds and whose morbid anatomic association is proved by the establishment of the lymphatic state as a common basis for all. Cheadle's dictum that "laryngismus, tetany, and general convulsions are the positive, comparative and superlative of the convulsive state of childhood," finds support and elaboration.

## DISCUSSION.

Dr. D. I. Wolfstein, *Cincinnati*—I am sorry that Dr. Ohlmacher did not mention what criteria at autopsy enabled him to diagnose the status lymphaticus.

Dr. A. P. Ohlmacher, Gallipolis, Ohio—The criteria referred to were disclosed with relative uniformity in suitable epileptic subjects at the Ohio Hospital for Epilepsy. It is necessary, in order to find the persistent thymus gland, the enlarged intestinal follicles and the enlarged spleen, that suitable autopsy cases should be selected. These lesions are found in young patients who are the victims of idiopathic epilepsy.

They are not ordinarily found in epileptics who are over thirty years old, or in those who have died of prolonged dementia or exhaustion or of certain acute infections, but only in those who die suddenly, and particularly in those whose nutrition is not materially impaired. The narrow arteries and relatively small heart are common as persistent features even after the patients have reached an advanced age.

**Dr. H. T. Pershing**, Denver—Can Dr. Ohlmacher give us any information as to the treatment?

**Dr. H. T. Patrick**, Chicago—I have been more or less familiar with Dr. Ohlmacher's investigations in epilepsy, and I think there is nothing so far to quite warrant the conclusion that the convulsions were caused by edema affecting the surface of the brain. I believe that this is a highly improbable solution of the epileptic paroxysm. Edema does not form instantly: it requires a certain length of time, while the paroxysm is almost instantaneous.

**Dr. D. I. Wolfstein**, Cincinnati—It seems to me very difficult to explain the occurrence of such phenomena as laryngismus stridulus or tetany or the manifestations of rickets on the theory of edema. Other objections to the theory are that this condition does not always occur in those individuals who show pronounced manifestations of rachitis, and that we see cases of prolonged lymphatic edema without the occurrence of convulsions or sudden death. We frequently see it in chronic alcoholics, and in such individuals there must be a certain amount of status lymphaticus and edema of the cortex.

**Dr. A. P. Ohlmacher**—Little has been accomplished in the way of treatment. The extract of the thymus gland has been used, but it has not given sufficiently good results to make it noteworthy. The treatment of the rickets is the prophylactic measure, and is, I believe, the essence of our present hope in the successful treatment of epilepsy. I am confident that Gowers is right in his belief that there is a distinct relationship between epilepsy and rickets, and that the prevention of rickets is one of the most important considerations in the prevention of epilepsy. The theory that the edema has a causative relation to the paroxysms of epilepsy or to laryngismus stridulus or to sudden death, is not original with me. The German authorities have already called attention to the fact, and its analogy to the lightning-like edema of the lungs. We know that epileptics may die in a sudden attack, and the autopsy may reveal a most astonishing condition of edema of the lungs. That edema of the brain might occur just as suddenly is, of course, a possibility, and one that is worthy of consideration. That intracranial pressure occurs in epilepsy is no novel theory. It has been advanced by a number of neurologists. That we may have a sudden increase of intracranial or extracranial pressure seems at least a possible conception.

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# METHODS OF CONTROLLING HEMORRHAGE OF THE ORAL CAVITY.[*]

H. E. BELDEN, M.D., D.D.S.
NEW ORLEANS.

I have been asked to read a paper of interest to the medical as well as to the dental profession. The subject of the control of hemorrhage of the oral cavity may not be as important to the general practitioner as to the specialist, still, as the blood is the life fluid of the body, any suggestions to prevent its loss will, I think, be of interest to the profession at large, especially as the pathology and treatment of hemorrhage of the oral cavity do not differ materially from that of hemorrhage generally.

Fortunately, the operator is usually able to control the hemorrhage, but when the hemorrhagic diathesis is met and diseases of the capillary system, such as purpura and conditions associated with jaundice, a much more serious and complicated state of affairs exists.

The pathology of the hemorrhagic diathesis is not perfectly understood, and its actual cause can not always be satisfactorily explained. It is quite evident that the bleeding continues from a lack of harmony between the coagulation time of the blood and the contractility of the vessels.

There is a tube invented by Wright by which the coagulation time of the blood can be determined. The blood is sucked into the tube and its fluidity tested at intervals of less than a minute. The normal time for blood coagulation is from two to four minutes, but in the hemorrhagic diathesis, and in certain diseases, the time is so extended that a clot does not form quickly enough to engage the fibrin and act as a plug in the mouth of the vessels, but on the contrary, coagulating in from six to twenty minutes, the clot forming outside, acts as a vehicle to hold the wounded surfaces apart and facilitates the free oozing of the blood. Therefore, hemorrhage continues from a perverted relation between the constituents of the blood which are necessary to form a clot (fibrin ferment, fibrinogen and paraglobulin) and the contractibility of the circular muscular fibers of the arteries, veins and capillaries.

We know that the vasomotor system of nerves not only acts on the entire vascular system as a whole, but can control the blood to a circumscribed locality. So in the wounds caused by leeches bleeding continues for hours after the removal of the leech. Could this not be explained by the fact that the leech has produced a circumscribed vasomotor paralysis?

I think that an important point in the arrest of hemorrhage is that the physician impress the mind of the patient with his ability to control the hemorrhage, thus overcoming the effect that fear has on the vasomotor centers, as they control the contractility of the muscular coat of the vessels. I have noticed after the extraction of teeth that fear has a tendency to increase the hemorrhage. For example, a recent patient, not of the hemorrhagic diathesis, presented a marked case of surgical fright and after the extraction of a tooth bled profusely. Dr. J. A. Bodine, in a recent clinical lecture, cites a number of cases where death has been caused by fright. He says that the autopsy findings are exactly the same in cases of death from fright as in those from chloroform poisoning, the cause of death in both cases being a vasomotor paralysis; "that is to say, the nervous system lost control over the motor nerve leading to the blood vessels, and especially the veins of the body, and as a consequence the patient bled to death into his own tissue."

Hemorrhage is the escape of blood from its vessels. The simple term hemorrhage is used when the blood passes outside the body. If it escapes within the cavities of the body it is known as internal hemorrhage. When a small quantity of blood is forced or infiltrated into the tissues extravasation is produced. Internal hemorrhage may occur in two different ways: by rupture of the vessels and by diapedesis. In diapedesis the corpuscles of the blood escape into the tissues through the walls of the vessels.

The control of hemorrhage depends on its cause. The cause may be accidental, that is, come from injury or disease, or it may be intentional, as in operations or in the extracting of teeth. The hemorrhage may be arterial, venous or capillary, but is often a combination.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

When there is injury to the arteries or large veins ligature is necessary, and when to the smaller veins and capillaries we resort to sutures, compression and styptics.

After the extraction of teeth, prolonged bleeding might occur from the dental artery becoming entangled in the ragged edges of the alveolus and its mouth being held open. In this case the bleeding would be red blood and spurt in jets. A drill run down into the cavity would disentangle the artery and stop the bleeding. In the same way it is possible that a nerve might become entangled. This would cause neuralgia. Relief would respond to the same treatment.

With proper treatment death is seldom a result of hemorrhage of the oral cavity. When it does occur it generally comes from the hemorrhagic diathesis or from accidental puncture to the larger vessels, as the jugular vein and carotid artery, or in cases of cancer and other malignant growths to capillary bleeding from the slough of unhealthy granulations. When the hemorrhage occurs from this cause the general condition of the patient is so serious that death is imminent anyway.

### MECHANICAL METHODS.

The treatment of hemorrhage of the oral cavity may be classed under three heads: Mechanical, medicinal and physiological.

The mechanical methods consist of direct application, as plugging or tamponing, compression, ligating the artery, torsion and suturing, position of the patient, etc. As hemorrhage of the oral cavity is usually capillary, compression is often all that is necessary to control it when properly applied.

In this connection I will describe the heroic treatment resorted to with good results by Dr. Fry of Hebron, Neb., of which I lately read in the *Dental Digest.* Tooth extraction was followed by hemorrhage in a patient subject to bleeding. He took an impression of the mouth in modeling compound, when cold, trimmed it to make an appliance that could be worn in the mouth, notching it to receive a strong bandage to be tied over the head. He then made a thin batter of plaster, added a pinch of salt and filled the appliance, putting it at once into the mouth and pressing it into place. When the plaster was set he added the bandage and tied it firmly. The socket had previously been packed with fluid extract of ergot. Immediate relief was given.

### MEDICINAL METHODS.

Under the head of medicinal methods of treatment we will consider the drugs applied locally, internally, hypodermically or intravenously. They have a systemic action and a direct action, one or both. In cases where a predisposition to hemorrhage is known or suspected before operating it is well to give systemic treatment of a nature depending on the general condition of the patient.

Among the new remedies which have appeared is calcium chlorid. This is recommended in doses of from 8 to 16 grains every two to four hours in all forms of persistent hemorrhage. It increases the coagulability of the blood, but when used for three days or more consecutively some authorities say it has the opposite effect.

Dr C. E. Vallis,[1] assistant dental surgeon in King's College Hospital, London, observed the case of a woman, aged 25, presenting the hemorrhagic diathesis, in whom the extraction of a tooth was followed by a hemorrhage lasting 36 hours. As the extraction of many carious teeth became necessary because of dyspeptic troubles, Dr. Vallis administered calcium chlorid in weak doses during eight days previous to the operation and extracted every tooth without hemorrhage. Dr. Vallis has since observed another case in which calcium chlorid has given the same satisfactory results. The disagreeable taste of this medicament and the slight tendency to constipation which it induces are the only inconveniences connected with its administration, even after a continuous use during a period of three to four weeks.

The following formula is ascribed to Bertignon:

℞. Crystallized calcium chlorid, 4 grams, or 60 grains.  
Syrup of mint .......... 30 grams, or 1 ounce.  
Distilled water ..........90 grams, or 3 ounces.

Dr. A. J. Ochsner gives a method of treatment in cases of hemophilia which consists of giving albumin in the form of whites of eggs. He says: "When from four to six whites of eggs are given three times daily there seems to be a very definite effect exerted on the clotting properties of the blood of these persons."

Another remedy which is creating general attention as a hemostatic is gelatin. It should be given in large doses, from 100 to 400 grains daily, and can be continued indefinitely. It seems to be contraindicated only in Bright's disease. It is doubtful whether it should be used subcutaneously or intravenously, as cases of tetanus have been reported from its use. We can understand this, for we know that gelatin is a medium used for propagating bacteria, and several authorities give it as their opinion that sterilization destroys its hemostatic properties. When applied locally an antiseptic should always be used in conjunction with it. It is a splendid systemic remedy and the good results consequent on its use are probably due to the nourishment of the vasomotor centers.

M. Marc Laffont and M. Andre Lombard conclude that "whenever some nutritional vice modifies the cryoscopic and other properties of the blood there may be glycosuria, an albuminuria, or a hemorrhage. Whether this syndrome is accompanied or not by an anatomic lesion, in a great majority of instances the lesion is curable if one attacks the cause. Gelatin seems to be the only agent capable of rendering the plasticity of the blood normal when administered in the dose of 225 grains daily. It is a harmless drug, and no contraindication to its use exists, and its administration should be prolonged."

The *Philadelphia Medical Journal* has this to say of adrenalin:

> Generally speaking, adrenalin, when locally applied, is the most powerful astringent and hemostatic known; also a very strong stimulant of the heart. It is non-irritating, non-poisonous and non-cumulative, as far as it has been observed. It is indicated in a condition produced by morphin and opium poisoning. It has produced good results in circulatory failure, in prevention of collapse of anesthesia and allied conditions. It is invaluable in carrying out bloodless operations in nose, ear, eye and throat work. Out of a great number of operations in which it was used, in only a few instances was sloughing after operation reported. The length of time required to control bleeding depends on its strength.

I have lately been experimenting with adrenalin in a small way. I have used it with good result to arrest the gingival hemorrhage which sometimes occurs in the removal of tartar from the necks of teeth and to check the bleeding which comes from the abrasion of the gums caused by the slipping of an instrument, sandpaper discs, emery wheels, etc., also in the removal of epulic tumors and after the extirpation of the pulp of a tooth. I have had good results with the use of adrenalin in conjunction with cocain in tooth extraction. I take a dram of the solution (1 to 1,000), add a grain of cocain (which gives about a 2 per cent. cocain solution) and inject a few minims into the gum. The cocain produces the usual local anesthesia, and the bleeding in almost every case has been extremely slight, and in some cases there has been no bleeding at all.

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[1] Revue de Stomatologie, Paris, quoted in Dental Cosmos.

[2] Progrès Médical, April 5, 1902.

Bartholow says of turpentine: "It is a serviceable cardiac stimulant when the action of the heart is weak and the arterial tension low. In passive hemorrhages we possess few agents more generally useful. The indications for its use are a general debility, relaxation of the vessels and an impoverished condition of the blood. It need hardly be stated that active hemorrhage or a condition of plethora contraindicates the use of turpentine."

According to Garretson: "Depressing the action of the heart is under almost all circumstances a valuable means to arrest hemorrhage. To this end veratrum viride is always given with satisfaction. The dose is five drops for an adult, given in a tablespoonful of water. Conjoined with this, and in many instances quite capable of taking its place, is the hot foot-bath."

Dr. Arthur Masur, Breslau, Silesia, advises the use of powdered charcoal after tooth extraction where the hemorrhage requires special attention. In its review on current literature, the *Dental Cosmos* says: "His *modus operandi* is as follows: The alveolus, which is freely irrigated with pure water, is dusted with charcoal powder and to insure better adaptation of the charcoal to the bleeding capillaries it can be packed into the alveolus by means of cotton." There is also another and very easy way of carrying the powder into the alveolus—by means of a damp cotton tampon, which is made to take up the charcoal, and is then introduced into the canal. The powder is allowed to remain two minutes in the alveolus and is then washed out with a strong stream of water.

In cases in which it is desirable to leave a packing over night the use of iodoform gauze impregnated with charcoal is recommended, although the essayist states that he has never had to use this procedure, as he has always been able to arrest hemorrhage in these cases with the simple application of charcoal powder.

The action of the charcoal powder is supposed, to be merely a physical one, the closing up of the openings in the capillaries with the charcoal granules. Incidentally, it is also stated, the charcoal has the property of hastening the healing of the wound, and its union with the tissues of the wound is very intimate, as it takes a strong stream of water to dislodge it.

Dr. Spaark, in a French medical journal, advises a wash of five parts of water to one of chloroform to prevent hemorrhage after tooth extraction.

It is not necessary to consider the long list of hemostatics, as alum, ergot, tannin, etc. I decidedly object to the use of styptic iron, or strong solutions of nitrate of silver as hemostatics in the mouth because of the danger of sloughing and secondary hemorrhage with an enlarged bleeding surface. Nitrate of silver destroys tissue and causes much inflammation to the mucous membrane, and styptic iron makes an objectionable stain which is difficult to eradicate.

For persistent hemorrhage I recommend, when simpler remedies fail, a sharpened stick of lunar caustic once applied as an actual cautery to the bleeding sockets of extracted teeth.

In treating hemorrhage after tooth extraction my method is this: I have the patient rinse his mouth with an antiseptic solution, I then syringe the bleeding sockets where the teeth were with pure peroxid of hydrogen, then follow with an antiseptic solution. This stops the hemorrhage, but should it recur I repeat the above procedure and then apply as an actual cautery a sharpened stick of lunar caustic run down very carefully into the very bottom of each socket, then pack tightly with antiseptic cotton held in place with a compress. The peroxid of hydrogen dissolves more thoroughly the clots from the mouths of the vessels, gives oxygen to the blood and stimulates the muscular contraction, and Nature is allowed to assist itself. This is somewhat in line with the old theory of exposing the bleeding surface to the atmosphere, the edges of the wound being drawn apart, the clots washed away, and bleeding for the moment encouraged.

Oral operations should be executed rapidly.

When it is necessary to use an anesthetic in operating in the oral cavity, chloroform should be chosen (unless contraindicated) as it is not a heart stimulant, it does not increase the blood pressure, and so adds nothing to the liability to hemorrhage. During the anesthesia of the patient care should be taken not to allow any blood to get into the lungs by way of the trachea or pneumonia will follow. Necessary precautions against asphyxiation will, of course, be taken. This can be prevented by the Trendelenburg position, the use of the saliva ejector and judicious sponging with hot water or ice water.

Of the many operations that are performed in the oral cavity for correcting congenital deformities, for hypertrophy of the gums, for affections of the tongue, the hard and soft palate, extirpation of cysts, tumors and malignant growths, clipping the uvula and operations on the tonsils, none is more common than the last named. The following comprehensive definition is given by Dr. Richard Faulkner: "The term 'tonsil' is now applied to various collections of lymphoid glands situated at the oropharyngeal orifice, the anal orifice and at points throughout the alimentary tract." We have to consider only the oral tonsils. "It is now agreed that they are absorbent glands of lymphoid structure, their chief function being the generation of lymph cells or leucocytes" which "escape through the surface epithelium of the tonsil into the free cavity of the pharynx where they destroy micro-organisms and other deleterious agents."

In operating on the tonsils there is usually considerable bleeding, as they are very vascular bodies, deriving their blood supply from the tonsillar and palatine branches of the facial artery, the descending palatine branch of the internal maxillary and the ascending pharyngeal. Usually the hemorrhage can be controlled. Fatalities from hemorrhage after amygdalotomy have been caused most often from hemophilia, or accidental injury to the adjoining larger vessels. Although the internal carotid is situated about three-fourths of an inch back, cases have been recorded where it has been punctured. Broca reports a fatal case due to an anomaly of this vessel.

Some New Orleans men will remember an operation performed here by Dr. Bemis several years ago for abscess of the tonsil. He opened the abscess with a bistoury and the man went home. After several hours there was a gush of blood. Dr. Bemis was visiting patients and could not be found and the man bled to death. At the postmortem examination it was found that the abscess had disintegrated the walls of the carotid artery, and when the pressure exerted by the pus was relieved the walls of the vessel gave way.

The treatment for controlling hemorrhage after extirpation of the tonsils is ligating the larger vessels, where necessary; compression and styptics. Antipyrin is a favorite hemostatic in tonsillar surgery.

## DISCUSSION.

Dr. M. L. Rhein, New York City—The use of adrenalin in dentistry should be known to all. It is an important part of our pharmacopeia.

Dr. George F. Eames, Boston—I have used the extract of the suprarenal glands and the various preparations made from it for some time, and my experience with it has been very satisfactory. It is the most wonderful drug in the control of hemorrhage I have ever used. In some cases it does not seem to act, but these cases are so rare that they may be classed as cases of idiosyncrasy or peculiar unsusceptibility to the drug. I think Dr. Belden is correct in saying that it probably does enhance the effect of cocain, but that alone it is not an anesthetic. The peculiar diathesis of a patient should be considered, and the greatest caution used in the preparation of the patient for an operation which is apt to cause hemorrhage.

Dr. M. L. Rhein, New York City—I believe that we, as stomatologists, demand a much more profound anesthesia than the laryngologist in his work. I do not believe it is possible to obtain profound anesthesia, that is, local anesthesia, with the chlorid of adrenalin. Used in the nose or the eye a certain amount of anesthesia is unquestionably obtained, but the fact that it is not complete anesthesia, I think, blinds us to the anesthetic properties that it does possess. I think this anesthetic property is produced mechanically by the contraction of the capillaries expelling the nerve cells from the fibrillæ.

# THE INFLUENCE OF RESECTION OF THE CERVICAL SYMPATHETIC GANGLIA IN GLAUCOMA.

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CHICAGO.

*(Concluded from p. 357.)*

## REPORT OF 61 ADDITIONAL OPERATIONS OF EXCISION OF SUPERIOR CERVICAL SYMPATHETIC GANGLION FOR GLAUCOMA.

Reports of these cases were sent to me through the kindness of the observers in response to the circular letter referred to. Lack of space prevents the publication of many of the details, but these have appeared in the Transactions of the Section on Ophthalmology of the American Medical Association.

### JAMES MOORES BALL. THREE CASES OF GLAUCOMA. FOUR OPERATIONS.[1]

No. 8.—Absolute glaucoma of right. M., aged 36, with R.V.=P. 1. L. V.=20/70. T.+3. After right sympathectomy tension fell to +1. Relief from pain for one year.

Nos. 9 and 10.—Simple glaucoma of both in woman aged 43. R.V.=0. T.+3. L. V.=P.1. T.+. Left sympathectomy, June 15, 1899, was followed by improvement in tension and vision. L. V.=F. 5 ft. T.n. Rt. sympathectomy, July 16, 1899, with temporary improvement in vision and tension. R. V.=hand movements. T.+1.

No. 11.—Sympathectomy in man 26 years old, gave immediate relief from pain in hemorrhagic glaucoma. No pain for 10 months.

### MELVILLE BLACK. ONE CASE.[2]

No. 12.—M., aged 35, had subacute glaucoma in left eye. L. V.=F. 1 ft. T.+2. Sympathectomy done Dec. 24, 1900, followed by immediate return to normal vision, normal fields and tension. This favorable condition has continued up to time of author's report to me, April 7, 1903.

### CALLAN. ONE CASE. BUPHTHALMUS; SECONDARY GLAUCOMA.

No. 13.—M., aged 25, with history of gradually failing sight. Highly myopic. Tension +1 in each eye. Right sympathectomy reduced the tension of right eye for a time, although it returned. The eye is not so large as before.

### D. H. COOVER. ONE CASE.[3]

No. 14.—Simple glaucoma in both. M., aged 65. R. V.=P.1. T.+3. L. V.=20/200. T.+2. Right sympathectomy caused slight improvement in tension and vision, but this lasted only four months.

### CUTLER. ONE CASE. CHRONIC IRRITATIVE GLAUCOMA. GREAT IMPROVEMENT.[4]

No. 15.—M., aged 56, with history of glaucomatous attacks for 8 years. Sclerotomy and also iridectomy had been done on the right. R. V.=F. 3 ft. T.+1. L. V.=0. T.+2. After eserin, R. V.=20/200. Right sympathectomy was followed by almost immediate improvement in vision and tension. R. V.=20/30. T. n. Last report of author says this improvement seems to be permanent.

### W. A. FISHER. ONE CASE. CHRONIC GLAUCOMA. NO IMPROVEMENT.

No. 16.—F., aged 62, with R. V. 12/200. T. n. Right sympathectomy had no effect on vision or fields, which gradually failed.

### HENRY GRADLE. ONE CASE. CHRONIC GLAUCOMA. DISEASE, STATIONARY.

No. 17.—F., aged 33, had simple glaucoma in both eyes. R. V.=20/40. T.+. Contracted fields. L. V.=0. Two iridectomies had been done on right eye, but had only delayed the disease. Right sympathectomy reduced the tension, which is normal after two and a half years. Central and peripheral vision unchanged.

### E. GRUENING. TWO CASES. ONE CHRONIC GLAUCOMA (BOTH). ONE OPTIC ATROPHY (BOTH).[5]

No. 18.—M., aged 50. Chronic glaucoma three years. R. V.=F. 2 ft. T.+1. L. V.=0. T.+1. Previous iridectomy. Right sympathectomy reduced tension to normal, and this remained so up to time of report. No change in vision.

No. 19.—M., aged 35. Double optic atrophy. R. V.=0. L. V.=20/30. Marked contraction of fields. T. n. Left sympathectomy had no effect on the vision. In both these cases there was paralysis of recurrent laryngeal, lasting many months.

### A. B. HALE. ONE CASE. SYMPATHECTOMY FOR THREATENED GLAUCOMA.

No. 20.—F., aged 48. R. V.=0. T.+, although two iridectomies had been done. L. V.=6/5. T.+. Fields contracted. Left sympathectomy was done to ward off an impending attack of glaucoma. Fields returned to normal.

### J. G. HUIZINGA. TWO CASES. 1. DOUBLE CHRONIC SIMPLE GLAUCOMA. DOUBLE SYMPATHECTOMY. IMPROVEMENT IN TENSION. 2. CHRONIC INFLAMMATORY GLAUCOMA. SYMPATHECTOMY. NO IMPROVEMENT.

Nos. 21 and 22.—M., aged 57. R. V.=P.1. T.+1. L. V.=6/20. T. n. Contracted fields. Double sympathectomy caused no material change in vision, but reduced tension to normal, where it remained.

No. 23.—M., aged 36. Double inflammatory glaucoma of several years' duration. R. V.=F. 3 ft. T.+3. L. V.=F. 3 ft.

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[1] The Journal A. M. A., June 2, 1900.

[2] Ophthalmic Record, October, 1901.

[3] Phila. Med. Jour., March 16, 1900.

[4] Annals of Surgery, September, 1902.

[5] Ophth. Sec. N. Y. Academy of Med., November, 1901.

T.+3. Left sympathectomy had no effect on vision and patient became blind. Tension remained high.

### ARNOLD KNAPP. ONE CASE. DOUBLE CHRONIC GLAUCOMA WITH ATROPHY. DOUBLE SYMPATHECTOMY. SLIGHT IMPROVEMENT.

NOS. 24 AND 25.—M., aged 20. R. V.=16/200, after iridectomy. L. V.=12/200 (?). T.+2. Fields contracted.

After double sympathectomy vision in each improved to 20/200, and at time of last report, ten months later, R. V.= 20/200. T. n. L. V.=12/200. T.+.

### HARRY LA MOTTE. FIVE OPERATIONS. 1. DOUBLE ACUTE GLAUCOMA. RIGHT IRIDECTOMY, RECOVERY. LEFT SYMPATHECTOMY. RECOVERY.[6]

No. 26.—M., aged 27. Acute glaucoma in each eye relieved by eserin. R. V.=F. 16 ft. Iridectomy followed by improvement of vision to 20/50. L. V.=P.1. T.+1. Left sympathectomy was followed by great improvement. Eighteen months after operation, L. V.=20/20. T. n. Pupil normal.

Nos. 27 AND 28.—F., aged 38. Chronic inflammatory glaucoma of two years' duration. R. V.=20/30. L. V.=20/200. Slight cupping. No fields taken. Left sympathectomy was followed by marked improvement. L. V.=20/20. T. n. Right sympathectomy was done because vision of right eye suddenly failed. After operation vision returned to normal. Eighteen months later R. V.=20/20. T. n. L. V.=20/20. T. n. Some contraction of fields.

No. 29.—M., aged 43. Simple glaucoma of right eye. R. V.= F. 3 ft. T.+2. Right sympathectomy followed by improvement of vision to 20/70. This vision was retained fourteen months after, but tension was increased.

No. 30.—M., aged 40. Simple glaucoma for one year. R. V.= 20/30. T.+1. Fields contracted. L. V.=20/20. T. n. Right sympathectomy. During the operation the patient vomited and infected the wound. In spite of careful cleansing, the infection spread and he died of septic pneumonia.

### JOSEPH MULLEN. DOUBLE CHRONIC INFLAMMATORY GLAUCOMA. PREVIOUS IRIDECTOMY. RIGHT SYMPATHECTOMY WITH IMPROVEMENT.[7]

No. 31.—F., aged 48. History of bilateral iridectomy 23 years previously for acute glaucoma. R. V.=F. 5 ft. T.+2. L. V.=5/200. T.+2. Contracted fields. Right sympathectomy relieved pain, increased visual fields and reduced the tension to normal. At the time of the last report, nearly three years after the operation, R. V.=20/100. L. V.=20/70. Fields about the same as before operation.

### W. B. MARPLE. CHRONIC GLAUCOMA. SYMPATHECTOMY. NO IMPROVEMENT.[8]

No. 32.—V. 10/200. T.+1. Pupil dilated. After sympathectomy tension became normal and pupil diminished in size. Vision unchanged. Observation six months.

### H. R. PRICE. TWO CASES. DOUBLE SIMPLE GLAUCOMA WITH HEMORRHAGIC RETINITIS AND CHRONIC NEPHRITIS. RIGHT SYMPATHECTOMY. IMPROVEMENT.

No. 33.—M., aged 70. R. V.=P.1.; under eserin, 20/200. T.+. Hemorrhages in macular region. L. V.=20/200. T. n. Glaucoma cup, retinal hemorrhages. Right sympathectomy caused reduction of tension, and V.=20/100. Five months later R. V.=20/100. T. n. Fields enlarged.

No. 34.—M., aged 55. V. B.=20/40 to 20/70. T.+. Contracted fields. Iridectomy had been done five months previously. Right sympathectomy reduced tension. Patient under observation only 15 days.

### R. C. REESE. ONE CASE OF DOUBLE SIMPLE GLAUCOMA. IRIDECTOMY FIVE YEARS BEFORE. RIGHT SYMPATHECTOMY. IMPROVEMENT.

No. 35.—F., aged 58. R. V.=F. 10 ft. T.+. Fields contracted. L. V.=0. Iridectomy on both eyes five years before. Right sympathectomy reduced the tension, but did not improve central vision. One year later T.—. Fields and vision unchanged.

### E. C. RENAUD. SIX CASES (FIVE BILATERAL).[9]

No. 36.—F., aged 48. Right chronic inflammatory glaucoma. R. V.=20/200. T.+3. L. V.=20/20. T. n. Right sympathectomy followed by improvement. R. V.=20/50. T. n. Disappearance of pain. Improved condition remains, three years later.

Nos. 37 AND 38.—M., aged 52. Double simple glaucoma. R. V.=quantitative. T.+2. L. V.=large objects 6 ft. T.+2. Bilateral sympathectomy reduced tension to +1 and vision to 6/100. Improvement retained, two years after operation.

Nos. 39 AND 40.—F., aged 40. Chronic simple glaucoma of left. R. V.=20/20. T. n. L. V.=F. 3 ft. T.+3. Bilateral sympathectomy brought tension to normal. L. V.=F. 14 ft. Improvement continues two years after operation.

Nos. 41 AND 42.—M., aged 39. Chronic irritative glaucoma of right. R. V.=P.1. T.+2. L. V.=20/20. T. n. Bilateral sympathectomy relieved pain, improved right vision to F. 12 ft. T. n. Same improved condition one year later.

Nos. 43 AND 44.—M., aged 57. Acute glaucoma in right. R. V.=20/100. T.+3. L. V.=20/20. Bilateral sympathectomy. Pain and increased tension disappeared and pupil contracted. R. V.=20/40. Ten months later no return of trouble.

Nos. 45 AND 46.—M., aged 46. Right chronic irritative glaucoma. R. V.=20/200. T.+2. L. V.=20/20. T. n. Bilateral sympathectomy caused reduction of tension. R. V.= 20/100. Favorable result continues six months later.

### G. E. DE SCHWEINITZ. ONE CASE. DOUBLE CHRONIC CONGESTIVE GLAUCOMA. BILATERAL SYMPATHECTOMY. RESULT UNCERTAIN.

Nos. 47 AND 48.—M., aged 23. R. V.=shadows on temporal side. T.+2. L. V.=shadows. T.+2. Right sympathectomy caused contraction of pupil, which lasted only three days. Slight improvement of vision and tension. Left sympathectomy caused no change in tension, pupil or field. Patient was free from glaucomatous attacks for two months, then they returned.

### JOHN R. SHANNON. ONE CASE. DOUBLE SIMPLE GLAUCOMA. LEFT SYMPATHECTOMY. NO IMPROVEMENT.

No. 49.—F., aged 32. R. V.=15/200. T.—. L. V.=F. 3 ft, eccentrically. T.+1. Iridectomy had been done. Left sympathectomy caused no change in vision or tension.

### J. H. SHORTER. SECONDARY GLAUCOMA AFTER SYMPATHETIC INFLAMMATION. LEFT SYMPATHECTOMY. SLIGHT IMPROVEMENT.[10]

No. 50.—M., aged 20. Lost right eye from trauma. Glaucoma in left eye following sympathetic ophthalmia. L. V.=F. 3 ft. T.+2. Left sympathectomy. L. V.=F. 6 ft. T. n. Fields slightly increased. Improvement continues.

### ELMER G. STARR. DOUBLE SIMPLE GLAUCOMA. POSTERIOR SCLEROTOMY. BILATERAL SYMPATHECTOMY. MARKED IMPROVEMENT.

Nos. 51 AND 52.—F., aged 63. Disease controlled for nine months with eserin; then sudden reduction of vision. R. V.= F. 4 ft. T.+3. L. V.=F. 4 ft. T.+3. Sclerotomy of right eye improved vision to F. 18 ft. After bilateral sympathectomy R. V.=20/50. T.+1. L. V.=20/50. T. n. Pupils normal. Improvement persisted up to time of report, six months later.

### GEORGE F. SUKER. FOUR CASES, FIVE OPERATIONS.[11]

No. 53.—M., aged 70. Double chronic glaucoma. R. V.=0. Absolute glaucoma. L. V.=20/200. T. n. Iridectomy of left in 1898. Right sympathectomy produced no change in fields, tension or vision.

Nos. 54 AND 55.—M., aged 65. Double simple glaucoma. R. V.=F. 8 ft. T.+2. L. V.=F. 10 ft. T.+. Fields contracted. After bilateral sympathectomy fields enlarged slightly and then contracted to less than before. No improvement.

No. 56.—F., aged 67. Chronic inflammatory glaucoma of left. R. V.=20/40. T. n. L. V.=20/100. T.+2. Nasal contraction of field. Left sympathectomy caused enlargement of fields and normal tension. L. V.=20/100. Improvement continued until patient's death, three years later.

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[6] Denver Medical Times, March, 1903.

[7] Amer. Med., June, 1901.

[8] N. Y. Med. Record, May 10, 1902.

[9] St. Louis Med. Review, Feb. 1. 1902.

[10] Medical News. April 6. 1901.

[11] THE JOURNAL A. M. A., 1901.

No. 57.—M., aged 58. Absolute glaucoma of right. Chronic inflammatory glaucoma of left. R. V.=0. T.+3. L. V.=20/80. T. n. Fields normal. Iridectomy of left had been done some time before. Right sympathectomy produced no effect on tension or vision.

### DAVID WEBSTER. ONE CASE. RIGHT SIMPLE GLAUCOMA. LEFT ABSOLUTE GLAUCOMA. RIGHT SYMPATHECTOMY. IMPROVEMENT.

No. 58.—M., aged 49. R. V.=20/50. T.+. Field slightly contracted. L. V.=0. T.+3. Right sympathectomy. Fields improved. R. V.=20/30. T.—. One year later R. V.=20/50. T. n. Fields as before operation.

### JOHN E. WEEKS. FIVE CASES, SEVEN OPERATIONS.[12]

No. 59.—F., aged 56. Chronic glaucoma of right. R. V.= F. 1 ft. T.+2. Fields contracted. L. V.=20/20. T.+1. After right sympathectomy fields increased markedly, but tension remained plus. Five weeks later R. V.=20/70. T.+1. Some weeks after an acute attack of glaucoma in the right eye necessitated iridectomy after which R V.=F. 7 ft.

Nos. 60 AND 61.—M., aged 70. Simple glaucoma of right (absolute), subacute glaucoma, left. R. V.=P.1. T.+2. L V.= 20/40. T.+2. Fields contracted. Bilateral sympathectomy relieved the tension in the right eye, and markedly improved the left. L. V.=20/20. Fields much improved.

No. 62.—Simple chronic glaucoma of left. Absolute glaucoma of right. R. V.=0. T.+3. L. V.=20/70. T.+. Fields contracted. After left sympathectomy L. V.=20/30. T. n. Three months later. L. V.=20/20. T.+. Fields increased.

Nos. 63 AND 64.—M., aged 30. Simple glaucoma of both. R. V.=20/40. T.+1. Right sympathectomy reduced tension to normal, but excited acute attack in left eye. L. V.=1/200. Left sympathectomy not successful, for tension of left eye remained high and iridectomy was done. Later iridectomy was done on right eye for increased tension. Last report R. V.= 20/40. T. n. L. V.=F. 17 ft.

No. 65.—M., aged 40. Simple glaucoma of both. R. V.=0. T.+3. L. V.=F. 5 ft. T.+. Iridectomy had been done. Left sympathectomy followed by improvement in tension and vision. Three months later L. V.=20/200. T. n.

### MEYER WIENER. TWO CASES.

No. 66.—F., aged 50. Chronic inflammatory glaucoma right. R. V.=F. 12 ft. T.+2. L. V.=0. Right sympathectomy caused no change in vision or tension.

No. 67.—F., aged 45. Chronic simple glaucoma of right. R. V.=6/200. T.+1. L. V.=6/6. T. n. Right sympathectomy. No improvement.

### H. W. WOODRUFF. ONE CASE. SIMPLE GLAUCOMA OF LEFT.[13]

No. 68.—M., aged 29. R. V.=0. Result of an injury. L. V.= 20/40. T.+. Fields contracted. After left sympathectomy T. n. and improved vision. Later central vision improved to 20/20. Six months later return of all symptoms and iridectomy was done with a final result of L. V.=20/70. T. n. Contracted fields.

We have here records of 68 operations done on 54 cases, i. e., 14 were bilateral. Of these operations, 38 were for simple glaucoma; 16 for chronic inflammatory glaucoma; 4 for subacute glaucoma; 3 for acute glaucoma; 4 for absolute glaucoma; 2 for hemorrhagic glaucoma; 1 for buphthalmus.

Of these five operations were preventive, one by Hale (20), four by Renaud (40, 42, 44, 46). No glaucoma up to time of reports. One death occurred (30). Of the 38 operations for simple glaucoma, 14 gave no improvement whatsoever. Five were temporarily improved for periods ranging from fifteen days to eight months, but had recurrent attacks that necessitated iridectomy or caused loss of the eye. Fifteen were improved as long as they were under observation, for periods of from two months to two years. Of these three were stationary (5, 17, 58); one died (30); six remained unimproved after iridectomy, but improved after sympathectomy (17, 18, 24, 34, 35, 65).

Concerning the 15 that were improved, No. 9 showed slight improvement; No. 18 improvement as to tension; previous iridectomy had been done; observation, one year; No. 24, improvement as to central vision and tension; No. 29, marked improvement; observation, fourteen months; No. 34, previous iridectomy had been done; improvement after sympathectomy, but patient was only under observation for fifteen days; No. 35. previous iridectomy, after the sympathectomy the tension remained minus; Nos. 37 and 38, slight improvement as to vision, but tension is still plus; time of observation, two years; No. 40, improvement as to tension, slight improvement as to vision; time of observation, twenty months; Nos. 51 and 52, marked improvement in tension and vision; posterior sclerotomy had been done without effect; time of observation, six months; Nos. 62 and 65, previous iridectomy; marked improvement in tension and vision; time of observation, four months; Nos. 4 and 6 showed marked improvement, and have been under observation for nine months and four months, respectively.

Of the 16 operations for chronic inflammatory, 6 showed no improvement; 3 showed improvement for periods from two to three months (2, 31, 50); 4 were improved as long as they were under observation; 1 (45) five months, 1 (15) eighteen months, 1 (41) one year, 1 (36) three years.

Of these 1 (15) had not been benefited by iridectomy, but greatly improved by sympathectomy; eighteen months under observation; 3 (20, 42, 46) were preventive, and disease had not appeared at three months, eight months and one year after operation.

Of the four that showed improvement, No. 15 is the most interesting, because an iridectomy failed to check the disease, but sympathectomy produced marked results in central and peripheral vision. Time of observation, eighteen months.

In No. 36, improvement in central vision continued after three years, tension slightly plus; in No. 41, improvement continues after one year; in No. 45, vision and tension were improved and pain was relieved; time of observation, five months.

No. 20 is interesting in that the operation was done for threatened glaucoma.

In Nos. 42 and 46 it is not stated whether the bilateral operation was done to influence more profoundly the diseased eye or to prevent the occurrence of the disease in the perfectly sound eye. The same may be said concerning Cases 39 and 44, in which one eye was normal in every respect.

Of the 4 operations for subacute glaucoma, 1 (12) cured at the end of two and a half years (Black); 2 (27, 28) remained well at end of fifteen months (LaMotte); 1 (60) remained improved after observation of four months (Weeks).

Of the three operations for acute glaucoma, 1 (26) recovered; observation, fifteen months (LaMotte); 1 (43) improved; remained so after nine months (Renaud); 1 (44) preventive; no attack occurred.

Of the four operations for absolute glaucoma, 1 (8) improved as to pain; 3, no improvement and no change.

Of the two operations for hemorrhagic glaucoma, 1 (11) improved as to pain; 1 (33), improved vision during time of observation, five months.

One operation for buphthalmus had no effect.

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[12] Trans. Amer. Ophth. Soc., 1902.

[13] Chicago Med. Recorder, July, 1901.

SUMMARY.

| Form of Glaucoma. | No. of Cases. | Improved. | Temporarily Improved. | Stationary. | Unimproved. |
|---|---|---|---|---|---|
| Simple chronic | 38 | 15 | 5 | 3 | 15 |
| Chronic inflammatory | 16 | 4 | 3 | 3 | 6 |
| Subacute | 4 | 3 | 1 | .. | .. |
| Acute | 3 | 1 | 1 | 1 | .. |
| Absolute | 4 | 1 | .. | .. | 3 |
| Hemorrhagic | 2 | 2 | .. | .. | .. |
| Buphthalmus | 1 | .. | .. | .. | 1 |
| | 68 | 26 | 10 | 7 | 25 |

After these 68 operations miosis is mentioned as occurring 40 times, and this condition remained for periods ranging from two days to three years. In most cases it seems to be permanent. It is mentioned that in 34 cases the tension was reduced to normal, and in 9 others it was much lower than it was before the operation. As to the effect of the operation on the lid, conjunctiva, face, etc., ptosis occurred in 36 cases and lasted for periods ranging from thirteen days to one year. This, like miosis, is one of the most constant phenomena. Conjunctival congestion was noted in 19 cases, lasting for a variable time, usually not longer than a few days. One case persisted for three months. Increased lachrymation was observed in 18 of the cases. This was of short duration, but in one case lasted three weeks. Congestion of the face on the side operated on was observed six times, in one case lasting three months.

Neuralgia and hyperesthesia of the side of the face operated on was noted in six cases, lasting in one case for one year. Anesthesia of the face or neck on the operated side was mentioned in only two cases; in one of them it lasted three months. Hoarseness or aphonia occurred in 8 cases, lasting for a variable time, from one week to three weeks. In two of the cases dysphonia was the result of paralysis of the recurrent laryngeal, and lasted in one for nine months and in the other for two years. Dysphagia was observed in 5 cases as a result of the operation. This symptom lasted only two or three days, except in one case, in which it persisted for six months. In one case (5), for a period of several days after the operation, the patient had mild hallucinations.

The results exhibited in this series of cases, at first glance, do not seem as favorable as those presented by Rohmer,[14] who drew conclusions from a study of 74 cases collected by Bichat, to which he added 20 of his own. On these 94 cases, 114 operations were done. The following table gives a summary of the results of their analysis of these cases:

| Form of Glaucoma. | No. of Cases Operated on. | Improved. | Negative. | Worse. |
|---|---|---|---|---|
| Simple chronic | 43 | 36 | 5 | 2 |
| Chronic inflammatory | 34 | 23 | 10 | 1 |
| Subacute | 14 | 6 | 6 | 2 |
| Acute | 9 | 4 | 5 | .. |
| Absolute | 3 | 1 | 2 | .. |
| Hemorrhagic | 5 | 5 | .. | .. |
| Hydrophthalmus | 6 | 4 | 1 | 1 |
| | 114 | 79 | 29 | 6 |

The statistics of Ziehe and Axenfeld,[15] who studied the results in 55 cases, agree with this in the main, for many of the cases in each series are the same. Unfortunately, many of these cases, as in the present series, either do not give the final result, or were under observation such a short time as to make any statement as to the final outcome impossible. Again, in studying them, it is seen that the records of many of them are far from exact.

However, to quote Axenfeld: "There is obtained by this operation in a certain proportion of cases of simple glaucoma, a definite and important result, and, in some instances, there has been a decided improvement, even where a previous iridectomy had failed." Such cases as those reported by Grunert,[16] Demicheri,[17] Cutler, Starr[18] and Weeks,[19] in which sclerotomy and iridectomy had been unsuccessfully performed, and sympathectomy accomplished not only reduction in tension but improvement in both central and peripheral vision, speak strongly in favor of the operation in certain cases.

As was said in the beginning, I feel that positive conclusions are not yet to be reached, and will not be until more carefully selected cases can be studied for longer periods of time.

The operation in itself, while a major one, is not to be considered one of unusual danger, and with modern technic should show a very trifling mortality. The death recorded in our present series was purely accidental, and might have occurred in any other operation on the neck. With such brilliant results before us as are presented in certain cases on record, we must agree that sympathectomy is not an operation to be condemned too hastily. It certainly is not fair to condemn it when it fails to restore sight to an eye that has suffered so long from glaucoma that it is blind from atrophy of the nerve, or when it fails to check pain in an eye that is hopelessly lost from absolute glaucoma.

If it is to be compared with iridectomy at all, it should be given an early trial in any form of the disease in which it is applicable.

The statistics up to date seem to indicate that the simple chronic form is the one most suited for it, next to the hemorrhagic form, if that can be determined. As a guide for my own practice, I should feel very much like following Abadie[20] when he says: "In acute forms of glaucoma and in subacute with intermissions, practice first iridectomy, and if it fails do sympathectomy. In simple glaucoma use miotics twice a day; if they suffice, continue them. If, in spite of their systematic employment the vision fails, do sympathectomy."

## DISCUSSION

### ON THE PAPERS OF DRS. DE SCHWEINITZ, WILDER, BALL AND WEEKS.*

**Dr. Melville Black**, Denver—It has been a great privilege to listen to these papers, and I am sure we must all feel that we know more about the subject now than we did before. It is a particularly interesting subject to me, and I believe that we can feel from the statistics presented so far that the operation is one of value. It is an operation, however, that is to be properly considered. My own personal feelings are that it should not be performed as a last resort, but really as a first one. The statistics of the operation will be vitiated, and have been up to the present time, by attempting it as a procedure where nothing could possibly be of any benefit. If sympathectomy is to be of any service it must be before the filtration angle is blocked or closed. If this angle has been occluded it is a question if the operation can be of any permanent benefit. It would seem to me that where eserin has a prompt action in relieving tension and pain and in improving vision and bringing up the field, that the action of sympathectomy should be correspondingly good and more permanent; that is, we can liken somewhat the after-effects of sympathectomy to the effects we obtain from the use of eserin. Of course, we can not continue the use of eserin indefinitely, and if we have in this procedure something permanent, it is certainly of great value.

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[14] Annales d'Oculistique, May, 1902.

[15] Ziehe and Axenfeld: Sympathicus Resection beim Glaukom. Rostock, 1901.

[16] Archiv. f. Augenheilk., 1900, vol. xlii.

[17] Annales d'Oculistique, vol. cxxi, 1899.

[18] Loc. cit.

[19] Loc. cit.

[20] Archives d'Ophthalmologie, May, 1901.

* The papers of Drs. de Schweinitz, Ball and Weeks appeared in THE JOURNAL January 30, and the paper of Dr. Wilder was begun in THE JOURNAL February 6.

I am inclined to believe that the results will not be as permanent as we would wish. With watching this one case of mine it has seemed to me that the eye is getting from some source more and more sympathetic nerve power. The ptosis is subsiding; the eye is no longer congested; the pupil is becoming more nearly the size of its fellow; at one time we had .50 diopter of myopia—we now have .50 diopter of hypermetropia. Therefore it would seem to me that this eye is gradually regaining its sympathetic nerve supply.

It would seem to me that where this operation is done a sufficiently extensive procedure should be adopted to insure as much cutting off as possible of the sympathetic nerve supply; and that therefore it would seem well to excise the middle ganglion with the superior. Any one who has watched the operation will have noticed how associated these two ganglia are and how easy it would be in removing the superior alone to have a supply from the middle. Dr. Freeman, Denver, has operated on ten cases, removing both ganglia. Only one of these operations, however, was done for glaucoma. He has seen in his practice no undesirable results following this procedure, and his opinion was, as I obtained it, that the operation was a comparatively easy one unless the subject were an enormous, bull-necked individual. The scar resulting is slight, provided a buried suture is placed, and in the course of three or four months it is scarcely possible to find a scar. The only thing of serious consequence that may follow is neuralgia, and that seems to be due to rather unnecessary bruising of some of the nerves that come off through the vertebræ.

I think that this operation is one that we should all consider, so far as our statistical results present, as being one of value, and while we should not embrace it with too much enthusiasm, yet at the same time we should give it the benefit of the doubt as being of some service, and we should not depend on the operation only where iridectomy has failed and all other known procedures have failed. It should be tried first, not last. Several cases have been reported where the operation has been of value even after iridectomy has failed. This might lead us to think that in certain cases ganglion excitation existed and that the removal of the ganglia relieved that irritation, which might have been the beginning cause of the glaucoma.

Dr. G. C. Savage, Nashville, Tenn.—I believe we have some reasons for holding the opinion that the sympathetic nervous system is the source of power that Nature has given us for the correction of astigmatism. That in early life every astigmatic eye has the power of correcting a considerable portion of its defect, if not all, is now universally believed. One must certainly be convinced that Nature has furnished some power by which this defect is remedied. It is not in Mueller's muscle, nor in the third nerve. In my own case atropin and homatropin were used to uncover my error of refraction, but both failed. I am to-day wearing a lens four times as strong as that with which I commenced. Each time the increase was made I got additional relief, until finally the full strength lens was given. I happened to be in Dr. Burnett's office in 1889 and my corneal astigmatism was the same then as it is to-day. A considerable portion of my astigmatism was corrected by some means within the eye in spite of a mydriatic.

Only two meridians of any cornea that is astigmatic have a focus—the two principal meridians. One is the meridian of greatest curvature, and the other of least curvature. When Mueller's muscle, supplied by the third nerve, contracts, the lens is made more convex, and the two foci are brought into definite relation with the retina, but not closer to each other, hence they are not made to fuse. The other muscle in the ciliary body is that of Bowman, which I believe is controlled by the superior cervical sympathetic. If under the influence of the sympathetic some fibers of Bowman's muscle can be thrown into contraction while others are not, it would result in tilting of the lens. When the lens is tilted on an axis in the plane of the meridian of greatest curvature the two foci are made to approach each other, and if the tilting be far enough they are fused into one. The power given us by Nature for the correction of astigmatism is in Bowman's muscle, and I believe it acts under the influence of the superior cervical sympathetic ganglion.

Dr. George F. Suker, Chicago—I maintain that the relation between any form of glaucoma and the sympathetic nervous system, including the cervical, is still open for considerable debate. We do not to a certainty know the physiologic tracts of the cranial sympathetic fibers in all instances; nor do we know whether or not these sympathetic fibers decussate in all individuals as do the cranial nerves proper. The ganglion of Ribes, situated on the anterior communicating artery, is not present in every instance according to some anatomists. Yet, if it is present, it is here where the cephalic extremities of the ascending branches of the cervical sympathetic fibers join and cross. This point may explain why, in some cases, a unilateral excision of the ganglion is of only temporary benefit. For, if this communication does exist, it is not unreasonable to suppose that the opposite side is furnishing the abnormal stimulus through the intact cephalic ends of the excised side. Just as the other corresponding nerve centers take up the function of its fellow when it is destroyed, so may the sympathetic system, by means of its ganglia, do the same. This fact may and does explain why in Dr. Black's case there was a return of the function of the sympathetic with its detrimental effects on the side operated on.

There is no justification in excising the middle cervical ganglion as well as the superior for glaucoma. However, it is very necessary to cut the connecting cord and excise that ascending branch of the middle ganglion which connects with the ascending fibers of the superior ganglion high up in the neck. It is only the cavernous and carotid plexuses of the superior ganglion which have any relation to the eye. For reasons already stated it is necessary to completely destroy the connections between these two ganglia.

The ciliary or lenticular ganglion must also be considered if we expect to explain the relation of the sympathetic fibers to glaucoma. For, it is the upper two-thirds which contain sympathetic filaments supplying the anterior segment of the eye. The lower third of this ganglion receives a branch of the third nerve. Furthermore, the sympathetic fibers in the rami communicantes, which are closely associated with the fifth nerve and enter the eye along with the optic nerve, must be seriously considered. These branches also supply the segment of the eye around which centers the pathology of glaucoma. The experiments of Anderson,[1] Delens[2] and Rohmer[3] with the sympathetic supply of the eye are to be considered in solving its relation to glaucoma. Especially are these various sympathetic fibers and ganglia to be surgically thought of in glaucoma, for we know that the superior cervical is frequently, if not invariably, histologically changed. What is true for this ganglion may hold true for the others also.

In no case of glaucoma have all the sympathetic fibers and ganglia, on one or both sides, supplying that eye ever been severed. Experimentally they have, then tension was reduced and the iris remained contracted, both permanently.

It is questionable, as Dr. de Schweinitz has stated, whether any trophic actions can be ascribed to the sympathetic nerves. As yet we are not in a position to attribute any trophic functions to certain kind of nerves. The untoward effects which follow the extirpation of the superior sympathetic ganglion are trivial and not permanent. The only one to receive any consideration is the enophthalmus; this, however, is only slight and does not supervene in every case.

The statistics here given by Drs. Wilder and Ball show that the operation was undertaken in such cases as might well be called desperate. Therefore, the operation has not been awarded a fair trial. There is no doubt that in well-selected cases it will accomplish what an iridectomy will not. In my hands the operation has been successful in a few instances, as the reports of the cases show. What good the excision of the ganglion will do in optic atrophy is yet debatable. In the case on which I operated I did obtain a decided benefit, though temporary. Dana of New York tried it in a case of tabetic atrophy, though with what success I could not ascertain.

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[1] Jour. Phys., vol. xxviii, No. 3.
[2] Bull. de la Soc. de Chirurgie, April, 1902.
[3] Annals d'Oculistique, July, 1902.

Several years ago I was quite enthusiastic concerning the future of sympathectomy; but of late I have become very conservative, as my paper before this Section in 1901 clearly demonstrated.

Dr. Edward Jackson, Denver—The trend of the papers would seem to indicate that we are not in a position to decide many questions in reference to the use of excision of the sympathetic ganglia in glaucoma. Yet in going over the literature one point seemed pretty clear to me, and that is confirmed this morning. Dr. Black broached it when he said that the case in which excision does good is the case favorably influenced by eserin. I think there is enough evidence now, although it lies in a very small minority of the published cases, to indicate that sympathectomy, or excision of the ganglia, will do good in the cases that would be benefited by iridectomy. If we consider apart those cases in which iridectomy would have been a hopeful operation, I think the record for sympathetic excision is very promising. That might appear to be saying that operations on the sympathetic had no place where iridectomy is an established operation, but such is not the case. I think sympathectomy may be of value in an important class of cases; as where one eye has been lost and it is difficult to get the patient to consent to an operation on the other eye at the stage where the operation is most hopeful, where iridectomy can not be done, or the patient can not be induced to have it done, and yet where if it were done the probabilities would be in favor of it, we are now justified in urging operation on the sympathetic. The cases where iridectomy is reported to have been done and no good accomplished, and then sympathectomy has been efficient, might seem to lead in another direction. I have seen one case where iridectomy did no good and sympathectomy afterwards restored vision. But it may be that in some of these cases where iridectomy is said to have been done it has not been a broad, complete excision of the iris, which I believe necessary to give iridectomy its best effect.

Dr. G. E. de Schweinitz, Philadelphia—The members of the Section must have realized that it has been impossible in presenting a résumé of the physiologic side of this question to read in detail the experiments and observations on which the conclusions were based. For example, I did not have time to discuss the question of the pupil-dilating fibers which do not run in the sympathetic system, although in the extended paper I have made reference to them. I confess that I am distinctly skeptical as to the permanent value of sympathectomy in the treatment of glaucoma, although I realize that a certain number of brilliant results have followed this operation, and also realize that at present our statistical information is to a certain extent misleading, because the operation has in most instances been utilized as a last resource, and therefore the results of prompt interference according to this method are not at our disposal, or, at least, at our disposal in a most limited degree. Dr. Black's idea that if the effect of eserin on a glaucomatous eye is good, we may reason that sympathectomy would likewise be followed by good results, does not seem to me to be an entirely safe guiding principle. Eserin accomplishes its good in those cases in which it is able to release the filtration angle from blockade by contracting the pupil and drawing the periphery of the iris away from the danger of adhesive inflammation to the structures in the filtration angle. Now, in a certain number of cases, perhaps in the majority of cases in which sympathectomy has been performed, the process has been a chronic one in which pronounced blockade in the filtration angle was lacking, cases in which it is possible that there may have been a hypersecretion of the intra-ocular fluids, or an increased serosity. Cases of acute glaucoma are just the ones in which strong solutions of the myotics give frequently the best temporary relief, and they are certainly not the ones in which the sympathectomy is advisable, at least, as far as our present knowledge goes. I entirely agree with Dr. Suker, and all physiologic investigation is on his side, that it is not necessary to excise the middle ganglion. Excision of the superior ganglion, which is the relay station for the sympathetic nerve supply for the whole of the head, accomplishes everything that can be accomplished by this operation in so far as the relief of glaucoma is concerned. Referring to Dr. Savage's interesting observations on his own eyes, I may say that in the extended paper I have reviewed at some length the action of the sympathetic on the eye in its relation to accommodation and refraction. The evidence is exceedingly contradictory, and the whole subject is an inviting one for further research.

Dr. Wm. H. Wilder, Chicago—The report of the histologic appearance of the ganglia that were excised was not read, but if any of you are interested in seeing the specimens they are on exhibition in the next room. The ganglia do not show, as was stated by Dr. Weeks, any increase in connective tissue, but one can see in the specimens that there is an increase in the adventitia of the coats of the vessels and that there is considerable pigment in the cells.

One important question comes up in connection with the statement made by Dr. Black, that he considers that where there is good contraction of the pupil with eserin sympathectomy would be indicated; one case I have reported, Case 7, makes me doubt seriously whether we should resort to sympathectomy or to iridectomy first in these cases of simple glaucoma. I am skeptical about the value of iridectomy in true simple glaucoma, particularly where the anterior chamber is of normal depth, and it is in such cases that sympathectomy should do good. We can not place much reliance on either procedure, but perhaps we can rely as much on sympathectomy as on iridectomy. The unpleasant experience in Case 7 suggests that possibly it might be safer to do the iridectomy first. In spite of the sympathectomy in this case, the tension and the central vision remained the same; the peripheral vision continued to contract until it was as though the patient were looking through a narrow gun barrel. I did an iridectomy and there was hemorrhage from the choroid and the eye was lost. A similar case has been reported by Mohr. However, in such a case the same accident might happen if sympathectomy had not been done.

It is not fair to condemn the operation when it fails to restore an eye that has atrophy of the optic nerve, or when it fails to relieve pain in an eye lost from glaucoma. It should be given an early trial. The statistics indicate that the simple chronic form is the most suited for the operation, with the hemorrhagic form next.

Dr. J. M. Ball, St. Louis—As to the pathologic changes found in the ganglia, we have found in exophthalmic goiter that the same pathologic condition exists. It is the same in each of these conditions—an overgrowth of connective tissue, a separation of the nerve elements and the presence of pigment. I have been told by Dr. Fish of St. Louis that the same changes are found in multiple sclerosis and in tabes.

# NEW ASPECTS OF YELLOW FEVER ETIOLOGY

## ARISING FROM THE EXPERIMENTAL FINDINGS OF THE LAST THREE YEARS.*

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In the light of modern researches yellow fever must now be considered as a disease produced, in individuals belonging to certain human races, by a two-host, microscopic, perhaps ultra-microscopic germ, endoparasite of the female of a particular species of mosquito—the *Stegomyia fasciata* (Theobald).

This germ pursues its parasitic existence in the body of the infected stegomyia during a period of 59 days, as experiments have proved, and probably, under ordinary circumstances, till the death of its mosquito-host. In order, however, that it may complete its life cycle, secure the perpetuation of its species and find its way into the body of other healthy stegomyias, it is necessary that it should penetrate, through the bite of the infected insect, into the body of a person who is liable to undergo an attack of yellow fever.

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* Read at the thirty-first annual meeting of the American Public Health Association, Oct. 28, 1903, Washington, D. C.

After parting from its mosquito-host, the germ apparently goes through certain evolutions in the body of the non-immune, and, after the lapse of from three to five days, as a rule, brings about the attack of yellow fever. What the character of those evolutions are can only be surmised. We do know, however, that while the sojourn of the parasite in the body of the infected stegomyia may continue during at least two months without perceptibly affecting the longevity or the functional activity of its insect-host, its presence in the human host reveals itself only during a short number of days, disappearing, apparently by the end of the sixth day of the dangerous illness which it occasions, without leaving any other trace of its brief sojourn in the human host except the immunity which a first attack of yellow fever confers. The person thus immunized can thereafter receive with impunity the bites of any number of infected stegomyias and becomes incapacitated from contributing again to the perpetuation of the germ.

Since the first day of the attack of yellow fever (as early as the ninth hour in one of Dr. Carroll's cases), any healthy stegomyia that bites the patient is liable to become infected, so that a new life cycle will be opened for the germ in the newly infected stegomyia. Thus by alternately passing from the human to the mosquito-host and vice versa, the yellow fever germ has now lived during several consecutive centuries in tropical America, where both the aborigines and the European invaders belonged to susceptible races.

Now let us consider the probable character of the evolutions which the yellow fever germ undergoes in the body of the human host. Bearing in mind the fact that other two-host protozoa, such as the malaria parasite, lead during several consecutive months a parasitic existence, multiplying by schizogonia, forming schizonts, merozoits and, after a while, also gametes, in the body of their permanent host, and are unable to accomplish the sexual reproduction indispensable for the perpetuation of their species, unless they pass into the body of a second host (the Anopheles, in the case of the malaria parasite); bearing this in mind, are we not justified in supposing that the yellow fever parasite, being unable to accomplish this sexual reproduction in the body of its permanent mosquito-host, can only succeed in doing so by passing into the body of a non-immune human being after some of its elements have reached a stage of sexual differentiation corresponding to the gametes of malaria?

There is, moreover, another important consideration which may be adduced in support of this interpretation. The large tertian parasite, untreated, may continue for many months in the body of infected persons without immediate danger to the patient, whereas Grassi, I am informed, has found all the anopheles, in the Roman marshes, free from parasites during the winter season, so that all the infected ones must have died in consequence of their infection (corresponding to the phase of sexual reproduction of the parasite), and he attributes the renewal of the malaria epidemic in the following spring to the survival of the parasites in the human permanent host, in whose body only schizogonic phases are accomplished. This shows that the act of sexual reproduction is attended with more dangerous consequences for the host in which it is accomplished than are the various schizogonic phases of the same germ, a result which I had already surmised by reason of the greater metabolic changes which must accompany the sexual reproduction as compared with the schizogonic multiplication.

If it be admitted, therefore, that the penetration of the germ into the body of the non-immune is intended for the accomplishment of its sexual reproduction, and also that the analogy between it and the malaria parasite holds good, with the difference only that the latter accomplishes this act in the anopheles mosquito while the yellow fever germ does so in the human host, the following important inferences may be drawn.

The minimum number of days (estimated at 10 or 12 by the Yellow Fever Army Board) which must elapse, after the stegomyia has bitten a yellow fever patient, before the infected insect is able to inoculate the disease through its bites, must represent a series of transformations in the body of the contaminated mosquito, including:

(a) Introduction of young sporozoits sucked up with the blood of the patient.

(b) Growth of the sporozoits to adult age.

(c) Formation of schizonts and merozoits.

(d) Formation of gametes.

While, in the body of the non-immune, counting from the moment of his inoculation by the infected stegomyia, the following stages are likely to take place during the period of incubation:

(a) Localization of the gametes in appropriate sites.

(b) Fecundation of the macrogametes by the microgametes of the yellow fever germ.

(c) Formation of the oökinet and development of the oöcyst in appropriate cells (endothelial?).

(d) Discharge of free sporozoits of yellow fever into the circulating blood (perhaps too small to be recognized with the microscope).

(e) Development of the toxemic symptoms characteristic of the invasion of yellow fever, in the inoculated non-immune.

In calling your attention to this correlation of ideas, my object is not to make a display of fanciful conceptions, but simply to comply with my belief that unless we map out for ourselves some working hypothesis of this kind we shall continue groping in the dark, with little hope of completing our knowledge of the yellow fever etiology.

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# THE PRESENT STATUS OF THE URIC ACID QUESTION.*

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The work of recent years on uric acid metabolism has completely set aside the theory once universally accepted that in mammals uric acid is a product of the metabolism of all proteids, and an intermediary product in the formation of the end product urea. The acceptance of this theory rested on the comparison of proteid metabolism in mammals with that in birds and reptiles, and on the apparent parallelism between the excretion of uric acid and urea. In 1887 Mares[1] studied the hourly excretion of uric acid and urea after rich proteid meals, and found that the uric acid excretion reaches its maximum and returns to a permanent level four or five hours before the urea reaches its maximum. Evidence has gradually accumulated to show that uric acid is an intermediary product of a group of proteids which form only a small part of the total proteid material of the organism, a group consisting of the nucleins and their decomposition products, the xanthin or purin bases. Soon after Mares had demonstrated the lack of coincidence in the hourly excretion of uric acid and urea, Hirschfeld[2] found that on a diet which did not include meat, but substituted for it varying quantities of other proteid foods, no parallelism occurred in the daily excretion of uric acid and urea, but that the uric acid remained practically constant, while the urea underwent marked fluctuations, corresponding to the variations in the quantities of proteid food. Horbaczewski[3] in 1891 fed nuclein made from spleen pulp, and obtained a marked rise in uric acid elimination. This observation was followed by numerous experiments in which various organs rich in nuclear materials, such as the thymus, the liver, pancreas, spleen and the kidney, were shown similarly to increase the uric acid elimination. Lüthje[4] and Minkowski[5] made the same observation in dogs, and Brandenburg[6] obtained an increase in uric acid after enemata of thymus.

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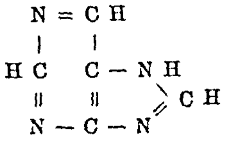
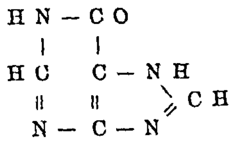
* A lecture delivered before the post-graduate students in medicine at the Johns Hopkins Medical School.

[1] Mares: Arch. slav. de biolog., 3, p. 207, 1887.

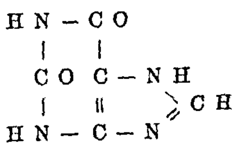
As Kossel had pointed out, nucleins yield, as decomposition products, the xanthin or, as Fischer has called them, the purin bases. The nucleins are substances which occur in cell nuclei, and consist of albumin combined with a nucleic acid. Nucleic acid contains in its molecule some one of the purin bases, and on decomposition splits up into this base and a phosphorus-containing portion. The purin bases, combined in the molecule of nucleic acid, are termed combined or bound purin bases; those which are uncombined are termed free. The bases which have so far been found combined in the nucleins are hypoxanthin, xanthin, guanin and adenin. These are closely related, chemically, to uric acid, together with which they are, according to Fischer, substitution products of a hypothetical substance which he termed purin, having this formula:



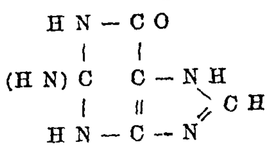
Hypoxanthin is 6. oxypurin.



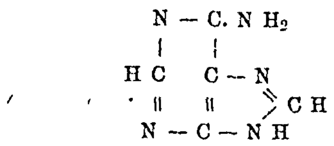
Xanthin is 2.6 dioxypurin:



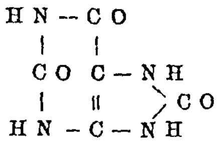
Guanin is 2. amino 6. oxypurin:



Adenin is 6. oxypurin:



While uric acid is 2.6.8 trioxypurin:



Hypoxanthin and xanthin, as may be seen, are oxypurins, while guanin and adenin are aminopurins.

Horbaczewski[7] had shown in 1888 that spleen pulp, which is rich in leucocytes, if allowed to undergo decomposition in the presence of oxygen, formed uric acid; if oxygen was excluded, it formed purin bases. This fact, and the close chemical relationship of uric acid to the purin bases, led a number of investigators to study the effect of the purin bases on the uric acid excretion. Strauss,[8] and later Jerome,[9] obtained a marked increase in uric acid excretion on adding beef extract to the diet, and Minkowski[5] gave hypoxanthin with the same marked result. The ability of the nucleins and purin bases to increase the uric acid output in the urine, therefore, appeared to be well demonstrated.

The converse side of the problem had, however, not been neglected. It had been noted by Mares, as well as by later investigators, that when the nucleins and purin bases were excluded from the body by starvation, the uric acid excretion was reduced much below the usual amount, but by no means disappeared. The same result was obtained by omitting from the diet meats of all kinds, soups, broths and all other substances containing nucleins and purin bases. On such a diet the uric acid became much less in quantity than on a mixed diet, just as was found during starvation, and after reaching a level remained constant from day to day, quite independently of changes in the amount of proteid in the food.

It seemed just to conclude from this that some constant source of production of uric acid exists in the body. In view of the relation between the feeding of foods rich in cellular elements and the consequent increase in the amount of uric acid in the urine, it seemed fair to assume that the continued excretion of uric acid, on a nuclein-free diet, was to be explained by the breaking down of cells and cell nuclei of the organism itself. The uric acid arising in this manner from the metabolism of the body tissues has been termed endogenous uric acid; that due to nucleins and purin bases introduced with the food, exogenous uric acid.

Based on the facts thus outlined, recent investigations, particularly those of Burian and Schur,[10] have determined more accurately the conditions which influence the normal excretion of uric acid from these two sources, and which will perhaps serve to form the starting point from which the pathologic physiology of uric acid metabolism may be rationally worked out. The essential fact, perhaps, on which our present conceptions of uric acid metabolism rests is the fixed value which, in a given individual following a given mode of life, the endogenous uric acid maintains. This uniformity is shown by the results of several observers who estimated at different periods during a number of months or years the amount of endogenous uric acid in the same individual. Thus Burian and Schur, at three different times in the course of eighteen months, found the endogenous uric acid in one individual to be 0.57 g., 0.60 g., and 0.60 g. Sivén[11] in his own case found 0.43 g. and 0.47 g. two months apart, and Kaufmann and Mohr[12] 0.558 g. and 0.525 g. six weeks apart.

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[2] Hirschfeld: Virch. Arch., 114, p. 301, 1888.
[3] Horbaczewski: Monatsh. f. Chemie, 12, p. 233, 1891.
[4] Lüthje: Ztsch. f. klin. Med., 31, p. 112, 1897.
[5] Minkowski: Arch. f. exp. Path. u. Pharm., 41, p. 375, 1898.
[6] Brandenburg: Berl. klin. Woch., p. 137, 1896.
[7] Horbaczewski: Monatsh. f. Chemie, 10, p. 624, 1889.
[8] Strauss: Berl. klin. Woch., p. 710, 1896.
[9] Jerome: Jour. of Physiol., 25, p. 98, 1899
[10] Burian und Schur: Pflüger's Arch., 80 and 87.

As the figures quoted will suggest, the amount of endogenous uric acid is not the same for all individuals, but within limits varies with the individual and in a given individual with the amount of cell-destruction that is going on in the body, that is, with the amount of exertion to which he is subjected. Burian and Schur, by keeping individuals on a diet of milk, eggs and bread, or on a vegetable diet, have determined the endogenous uric acid in three cases, which excreted in twenty-four hours 0.54 g., 0.30 g., and 0.39 g., respectively. Kaufmann and Mohr found in four cases to which exactly the same diet was given 0.54 g., 0.31 g., 0.44 g., and 0.36 g. As referred to above, Sivén in his own case found 0.43 g. of endogenous uric acid; Krüger and Schmid[13] found 0.45 g., Mendel, Underhill and White[14] in two individuals found 0.35 g. endogenous uric acid excreted, Taylor[15] found 0.28 g., and Walker Hall[16] 0.48 g. The extremes in the daily amounts of endogenous uric acid in normal individuals are 0.2 g. and 0.7 g. According to Walker Hall this individual variation runs parallel to the body weight. In all of these determinations, the mode of life, the amount of work done by the individual, was kept constant, so that the maintenance of a uniform excretion of uric acid must be assumed to depend on this condition. In the way of direct proof Sivén has shown that more uric acid is excreted hourly during the hours of work than during the hours of sleep, and also that continuous rest in bed probably diminishes the amount of uric acid compared to that excreted during an active life. No observations have been made in regard to the amount of uric acid excreted during excessive muscular work.

When nucleins and purin bases have been eliminated from the diet variations in the amount of nitrogen metabolism have practically no effect on the uric acid excretion, nor is the condition of nitrogen equilibrium essential. Burian and Schur have shown that with an individual in nitrogen equilibrium excreting 16 g. of nitrogen per day, the uric acid varied between 0.58 g. and 0.54 g. When the nitrogen level was reduced to 9 g. per day, the uric acid remained almost exactly the same, varying between 0.54 g. and 0.56 g. On the other hand, Sivén also obtained a uniform excretion of endogenous uric acid in spite of a total failure to establish nitrogen equilibrium, and in spite of marked fluctuations in the amount of nitrogen taken into the body. In addition to these observations, it is also probable that variations in the number of calories contained in the diet produce no change in the endogenous uric acid, though some observers are inclined to think that an excessive number of calories tend to lower the amount of uric acid.

The quantity of endogenous uric acid eliminated in the urine is, therefore, peculiar to the individual, and varies with the amount of cell change going on in the organism, but is entirely independent of the general nitrogen metabolism and of the non-nitrogenous constituents of the food—in other words, provided the organism is normal, the endogenous uric acid is uninfluenced by the general metabolism.

The exogenous uric acid is an additional quantity of uric acid arising from the nucleins and purin bases introduced with the food. Accurate feeding has shown that the proportion of nucleins and purin bases excreted as uric acid represents a fixed percentage of the amount of purin bases, bound or free, taken in the food. On adding a definite quantity of hypoxanthin to an otherwise purin-free diet, Burian and Schur found that in man about 50 per cent. of the nitrogen contained in the hypoxanthin appeared in the urine as uric acid. Others have come to the same result, although there is some variation in the exact figures—Krüger and Schmid, for instance, recovering as much as 63 per cent. of hypoxanthin-N as uric acid-N. Of xanthin-N introduced, Burian and Schur found 43 per cent. to appear as uric acid-N. Guanin and adenin, on the other hand, when added to a purin-free diet, apparently cause no increase in the uric acid. Though Krüger and Schmid recently recovered 40 per cent. of adenin-N as uric acid-N, their result is open to question because of their method. Of these four purin bases, therefore, hypoxanthin and xanthin, which are oxypurins, increase the uric acid excretion, while guanin and adenin, which are aminopurins, fail to do so; that is, the free oxypurins may be oxidized to uric acid, while the oxidation of the free aminopurins results in other decomposition products.

If, however, these four purin bases be ingested by the organism as bound purin bases, combined in the nuclein molecule, the oxidation of guanin and adenin seems to follow other lines than when they are ingested as free bases. As bound bases both guanin and adenin also increase the uric acid elimination in certain definite proportions. Calves' liver, which contains bound hypoxanthin, causes an increase in the amount of uric acid-N equal to 50 per cent. of its contained hypoxanthin-N. Thus 500 g. of liver, which contain 0.6 g. purin-N (almost entirely hypoxanthin-N), cause an increase in uric acid-N of 0.31 g., equal to 52 per cent. of the hypoxanthin-N; 400 g. of spleen, containing 0.64 g. hypoxanthin-N, increase the uric acid-N by 0.33 g., also about 52 per cent. Of guanin, which is combined in the nuclein of the pancreas, about 50 per cent. is excreted as uric acid; Weiss[17] substituted 200 g. of pancreas for 200 g. of lean meat, making an increase of 0.146 g. in purin-N due entirely to bound guanin-N, and produced an increase of 0.072 g. in uric acid-N, equal to 49 per cent. of the additional guanin-N. Adenin is combined in the nuclein of the thymus, and so ingested causes an increase in uric acid which, however, is equivalent to only 25 per cent. of the total amount ingested. Burian and Schur on two successive days gave 620 g. of thymus, containing 2.48 g. of adenin-N, and recovered 0.6 g. as uric acid-N, or 26 per cent. Weiss recovered 22 per cent.

The aminopurins which can thus increase the uric acid output when combined in the nuclein molecules form an intermediate group between the oxypurins which, both bound and free, are oxidized to uric acid, and the methylated purin bases which are never converted to uric acid. The last, such as caffein (1.3.7. trimethyl-xanthin). and theobromin (3.7. dimethyl-xanthin) apparently cause no increase in the uric acid, but appear in the urine partly as such and partly as other purin bases. Though this has been the almost unanimous finding, Taylor has obtained a perfectly definite and unquestionable increase in the uric acid after the addition of coffee to a mixed diet, which was kept constant.

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[11] Sivén: Skan. Arch. f. Physiol., 11, p. 123, 1900.

[12] Kaufmann u. Mohr: Deutsch. Arch. f. klin. Med., 74, 1902.

[13] Krüger u. Schmid: Ztsch. f. physiol. Chem., 34, p. 563, 1902.

[14] Mendel, Underhill and White: Am. Jour. Physiol., 8, p. 377, 1903.

[15] Taylor: Am. Jour. Med. Sc., 118, p. 141, 1899.

[16] Walker Hall: Manchester, 1902.

[17] Weiss: Ztsch. f. physiol. Chem., 25, 1898.

Uric acid, therefore, has two sources: First, the breaking down of cell nuclei of the body itself, which for each individual, under normal conditions, remains approximately constant, and, secondly, the nucleins and purin bases of the food which may vary greatly and produce corresponding variations in the uric acid output. The uric acid arising from the first source (the endogenous) varies normally, with the individual, between 0.2 g. and 0.7 g. in twenty-four hours. The uric acid arising from the second source (the exogenous) has been found to bear quantitative relations to certain of the purin bases introduced with the food, and to be entirely uninfluenced by others.

The question as to where in the body the purin bases undergo decomposition or oxidation has been approached in several ways, and has been best studied in dogs. Spitzer[18] has added hypoxanthin and xanthin to aqueous extracts of dog's liver and spleen, and found that in passing a stream of air through the mixture these bases were oxidized to uric acid. Guanin and adenin could also be oxidized in the same way, but to a much smaller extent. In dogs in which anastomosis had been made between the portal vein and the inferior vena cava, Hahn and Nencki[19] found the excreted *uric acid greatly increased above the output before the operation.* Beside the liver and spleen, other tissues, as the thymus and the voluntary muscles, are capable of oxidizing the purin bases to uric acid. While the liver is perhaps the chief tissue in which this decomposition takes place, the fact that it is not the only one is further demonstrated by the subsequent course of Hahn and Nencki's dogs, in which the uric acid excretion after remaining unusually high for a variable period, returned to normal. Here other tissues replaced the liver in disposing of the purin bases.

The decomposition of the purin bases is, however, carried beyond the stage represented by uric acid, and is effected by practically the same tissues and organs as the oxidation to uric acid, among which the liver is again the most important. Stokvis[20] many years ago showed that uric acid is destroyed by extracts of dog's liver. Chassevant and Richet[21] more recently isolated from such extracts an enzyme-like substance which decomposed uric acid, and Jacoby[22] found that by boiling the power to effect this decomposition was greatly diminished, thus strengthening the proof of its enzyme-like character. Ascoli[23] approached the subject in another way. He transfused isolated livers with defibrinated blood containing a known quantity of uric acid, and found a marked diminution in uric acid after the passage of the blood through the liver. In still another way Burian and Schur *have demonstrated that the dog's liver is a very important point of destruction of uric acid.* They isolated the liver and the kidneys from the circulation by ligating the aorta above the celiac axis, *and found that whereas no uric acid could be demonstrated in the blood before this interference, a weighable quantity could be separated a few hours after the operation. With this well-proven activity of the liver in the dog, it is striking and a matter of importance that the kidneys are entirely inactive.*

*The herbivora form a striking contrast to dogs and other carnivora in the distribution of the tissues in which purin metabolism takes place.* The oxidation of the purin bases takes place in the liver, spleen, thymus and other tissues. *On the other hand, it has been found* that extracts of beef liver *could not* decompose uric acid at all and that the liver in all herbivora acts only slightly. The kidneys, however, and in beef the muscles as well, decompose uric acid very rapidly. Thus, though the liver and some other tissues in the herbivora are able to oxidize the purin bases to uric acid, they can not carry the oxidation beyond this point, while the liver in carnivora can effect the complete oxidation. In man this accurate study has not been made.

The end product of the metabolism of purin bases, as far as man is concerned, is still a matter of doubt. For carnivora it has been shown by Salkowski,[24] and later by Mendel and Brown,[25] that uric acid was excreted largely as allantoin, while Minkowski[5] after feeding hypoxanthin to dogs recovered an amount of allantoin almost equivalent to the hypoxanthin which was not excreted as uric acid. Similar results have followed thymus feeding. In rabbits, on the other hand, uric acid introduced into the organism is partially excreted as glycocol. As this is decomposed to urea by the liver, it is possible that the portion of glycocol not excreted is so oxidized, and that urea forms at least *one of the end products of uric acid decomposition.*

*It is, therefore, unquestionable that certain tissues in the mammalian organism can oxidize purin bases to uric acid,* and that sometimes the same, sometimes other tissues, continue the oxidation of uric acid.

So far, only the fate of the exogenous purin bases has been considered. It has also been demonstrated, however, that the endogenous purin bodies, those arising from the metabolism of the organism itself, are similarly oxidized, and that the endogenous uric acid of the urine represents only the unoxidized portion of these. Burian and Schur have brought positive proof of this for the dog, and made it extremely probable for man. The blood of normal dogs contains no recognizable quantity of uric acid. Removal of both kidneys does not at all increase it. Only when the liver *is at the same time isolated from the general circulation, that is, when the most important uric-acid-destroying organ is removed,* does a measurable amount of uric acid appear. This occurs both when dogs have been kept on a purin free diet, and when they have been fed meat. Therefore, both the endogenous and the exogenous uric acid can be completely oxidized by the tissues when elimination is precluded by removal of both kidneys, and both accumulate in the blood when the uric-acid-destroying tissues are removed. Therefore, within the body as well as in isolated organs, uric acid represents only a *stage in* purin metabolism, and is not necessarily an end product. That a certain proportion of uric acid *escapes* oxidation, and is always contained in the *blood,* is obvious from the fact that when the means *of its de-*

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[18] Spitzer: Pflüger's Arch., 76, p. 392, 1899.

[19] Hahn, Nencki, Massen und Pawlow: Arch. f. exp. Pathol. u. Pharm., 32, p. 161, 1893.

[20] Stokvis: Arch. f. d. holl. Beitrage, 2 series, 2, p. 260, 1860.

[21] Chassevant and Richet: Compt. rend. de la Soc. de Biol., 4, p. 743, 1897.

[22] Jacoby: Virch. Arch., 157, p. 261, 1889.

[23] Ascoli: Pflüger's Arch., 72, p. 340, 1898.

[24] Salkowski: Ber. d. deutsch. chem. Gesell., 9, p. 719, 1876

[25] Mendel and Brown: Am. Jour. Physiol., 3, p. 261, 1900

struction are removed it begins to accumulate in the blood. The uric acid which is found in the urine represents that portion of the uric acid in the blood which has been taken up and excreted by the kidneys. When a purin-free diet is given, the uric acid excreted, therefore, represents only a certain portion of the uric acid, which is formed by the breaking down of all nuclei, and enters the circulation. In dogs only about 4 per cent. of the uric acid injected subcutaneously is also eliminated to the extent of 4 per cent. If exogenous uric acid is excreted to this extent, and endogenous uric acid, as has been shown, exists in the blood, and, while the liver remains intact, may be destroyed just as is exogenous uric acid, there is no reason for doubting that it, too, is eliminated in the same proportion—that is, to the extent of 4 per cent.

When uric acid is injected subcutaneously in man, 50 per cent. is eliminated in the urine. This is the same proportion in which the hypoxanthin-N is eliminated. It may, therefore, be said that hypoxanthin is wholly oxidized to uric acid, and that of this one-half is eliminated as such. This means that a much larger proportion of uric acid reaches the kidneys in man than in dogs. Whether, in man, uric acid be increased in the blood when the means of elimination and decomposition are excluded from the circulation, can not be determined experimentally. From the identical behavior of the exogenous uric acid in dog and man, it is fair to assume that the endogenous uric acid in man is oxidized just as the exogenous uric acid and that the endogenous uric acid found in the urine is about one-half the entire amount found in the body. This, then, affords a criterion by which can be determined the ability of the body to take care of the purin bodies introduced into it or arising in it. If the exogenous and endogenous uric acid be controlled by the same conditions, as presumably they are, the degree to which the body can eliminate as uric acid ingested purin bases will at the same time indicate the extent to which the body can oxidize the uric acid arising within itself. This, therefore, forms a new method for the study of uric acid elimination in disease.

Uric acid, however, forms only a part, though under normal conditions by far the largest part, of the purin bodies eliminated in the urine, and should always be considered in its relation to the total quantity of purin substances in the urine. As has already been pointed out, certain of the purin bodies, the methylated purin bases, caffein, theobromin and others, do not ordinarily affect the uric acid excretion. They do, on the other hand, markedly increase the purin bases in the urine. It has been claimed by various writers that in certain diseases some of the exogenous and endogenous purin bodies are eliminated as purin bases at the expense of the uric acid, that is, that the latter forms a smaller proportion of the total purin bodies of the urine. Minkowski,[26] considering nucleic acid as a loose chemical combination consisting of adenin, guanin and nucleotin-phosphoric acid, suggests that "the end products of the metabolism of the purin bases may vary according to the organ in which the decomposition of the molecule of nucleic acid takes place, and the method by it occurs." By way of an hypothetical example, he adds that "by oxidation hypoxanthin may possibly arise directly from nucleic acid, and be easily oxidized; that by simple hydrolysis, on the other hand, only adenin is set free, the oxidation products of which retain the amido ($NH_2$) group instead of oxygen, and for this reason may have other effects on the organism." The effects on the organism of many of the purin bases has received very little attention. Walker Hall, however, has recently demonstrated that injections of hypoxanthin into rabbits, equal, weight for weight, to the quantity of purin bases usually ingested by man, cause degenerative changes in the cells of the liver and the kidney and produce changes in the intima of the smaller blood vessels.

In the light of the recent changes in the views concerning the physiology of uric acid, much of the work previously done on the elimination of uric acid in disease requires revision. Only the most recent observations have that accuracy which has been made possible by our better knowledge of the endogenous uric acid and of the quantitative relations between the excretion of exogenous uric acid and the amount of purin bodies introduced with the food. Of the latter point practically no application has as yet been made.

The study of endogenous uric acid in disease has not been carried far enough to warrant general conclusions. Inasmuch as the endogenous uric acid arises from the breaking down of cell nuclei, and, therefore, from nuclear nucleins, its relation to the phosphoric acid elimination has attracted some attention, the elimination of the two being parallel under normal conditions and in some diseases as well, notably in gout. The increase in all pathologic conditions in which an increased amount of tissue metabolism occurs has long been recognized. In all fevers, in diseases such as pneumonia, in which a cellular exudate is constantly thrown out and reabsorbed, in the primary anemias, in pernicious anemia in which blood destruction is constantly going on, and in leukemia in which a great number of leucocytes disintegrate, in the cachexias, and in other conditions—this increased waste results in an increase in the nucleins in the circulation to be broken down, and a consequent increase in the uric acid and purin bases eliminated. Uric acid may, therefore, be regarded as an index of the amount of cell destruction, of the amount of nuclear metabolic change, which is going on in the body.

The factors which control the deposition of uric acid salts in the tissues, as in gout—the retention of uric acid—have not been determined. It will be interesting to learn in what proportion the gouty individual eliminates as uric acid or purin bases known quantities of ingested purin substances. From a consideration of the phosphoric acid and nitrogen balances in gouty individuals between the attacks, Kaufmann and Mohr have obtained results which tend to show that the gouty individual has periods of retention and of elimination of phosphoric acid and nitrogen, which do not occur in normal individuals taking exactly the same diet (see also Futcher[27]). In the interval between attacks the endogenous uric acid, in the cases in which it has been determined, has been quite within normal limits. Whether the retention of uric acid which occurs just before and in the early part of the acute gouty attack represents a disturbance of purin metabolism only, or is part of a general metabolic disturbance, is still a matter of doubt. Woods-Hutchinson[28] has recently brought forward arguments which tend strongly to show that gout is a direct intoxication, entirely independent of uric acid, the variations in which, as well as its deposition in the tissues, are secondary.

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[26] Minkowski: Deutsch. med Woch., July 10, 1902.

[27] Futcher: The Journal A. M. A., p. 216, 1897.

[28] Woods-Hutchinson: Lancet, Jan. 31, 1903.

In nephritis, except when uremia develops, the uric acid excretion is probably more nearly normal than that of urea; that is, uric acid is probably more easily eliminated.

To summarize our present knowledge of the conditions which control the elimination of uric acid: The source of uric acid in mammals lies in the nucleins and their decomposition products, the purin bases. The uric acid eliminated in the urine arises partly from the nucleins and purin bases due to the breaking down of cell nuclei in the body itself, that is, the endogenous uric acid; and partly from the nucleins and purin bases contained in the food, the exogenous uric acid. The amount of endogenous uric acid excreted in twenty-four hours is the minimum which the individual normally excretes; it does not change in quantity, though it varies with individuals; it is influenced only by the mode of life, but in no way by the quantity or character of the constituents of food which do not belong to the group of nucleins and purin bases. The exogenous uric acid is always an addition to the endogenous uric acid, and depends in amount entirely on the quantity of certain purin bases contained in the food. Of the free purin bases only the oxypurins, hypoxanthin and xanthin, increase the uric acid elimination; of the bound bases both oxypurins and aminopurins increase the uric acid; the methylated purin bases do not effect the uric acid elimination, but increase the purin bases in the urine. Of the oxypurins, both bound and free, one-half is excreted in man as uric acid; of the bound aminopurins some appear one-half, some one-fourth as uric acid. The fraction is in each case independent of the individual, and is practically constant.

Uric acid is not an end product of metabolism, but is intermediary between the purin bases and some lower oxidation product which has lost the purin characteristics. This product may possibly be urea, but this is certainly unproven in man and only probably in lower animals. In the carnivora allantoin, in the herbivora glycocol, forms a large portion of the recoverable (recognizable?) oxidation products of uric acid.

What the relations of uric acid to gout may be has only begun to be worked out, but it is evident that it has very little to do with many of the pathologic conditions for which it has been unduly held accountable, and for which it can at best be regarded only as an index.

# TUBERCULAR JOINTS AND THEIR TREATMENT.*

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The frequency of tubercular disease of the joints, and the necessity for early diagnosis, serve as an excuse for this paper on a subject about which so much has been written. The writer desires to emphasize the fact that the present article is intended only as a résumé of some of the more important well-proven and accepted conditions which make it an imperative *duty* of both the general practitioner and surgeon to be able to recognize a tubercular joint in its incipiency, for on our ability to diagnose this trouble early depends the success of treatment. We must recognize that joint tuberculosis is at first a local manifestation. We must disabuse our minds of the idea that it originates only in the children of tuberculous parents, and of the idea that all joint pain is rheumatic.

Tuberculosis in the region of a joint is essentially of the bone, although it may have originated in the synovial membrane. It is a disease of bacillary infection, which may occur from without or through the blood vessels. If the joint structure is in a healthy condition, the effect of the lodgement of these micro-organisms is *nil*. But, on the other hand, given some slight injury, or a cell weakness, the natural defensive power is weakened, the point of attack is fortified and we have the beginning of a disease process which, if not very early diagnosed *and treated in the most radical way*, finally results in abscess, necrosis, ankylosis, loss of limb or loss of life.

The irritation caused by the tubercle bacilli often excites inflammatory processes, and if staphylococcus infection is added suppuration ensues and the nodule may finally be gotten rid of; but suppuration is not to be regarded as an essential of a tubercular process. The action of bacilli is necessarily destructive, but by their presence phagocytosis immediately becomes active.

Tuberculosis of the joints may occur at any age, and is very frequent in children. The inflammation may begin either in the synovial membrane or the ossifying tissue of the head of the bone.

In the realm of causes we have lack of food and sunshine, foul air, etc., or the action of any process serving to lower the natural cell resistance of the part, and we have the onset of the disease. The general symptoms are rigidity, swelling, pain, flexion and disturbed relation as to length. After a very slight injury the child begins to limp, and remember this one symptom can never be regarded as a habit in a child, for it limps only from cause. A muscular atrophy takes place above and below some of the joints, making very prominent any hypertrophy that may exist. The pain is often characteristic, for it occurs in severe attacks at the instant the patient falls asleep, due, of course, to the momentary muscular relaxation and consequent approximation of the two ends of the inflamed bone. This, of course, is a symptom of a rather advanced state, but often we have a reflected pain, in knee, hip, abdomen, or chest, with altered contour of the body in various positions, the pain often at first only slight, possibly only a slight uneasiness or restlessness at night. This with the various other manifestations should serve as a warning signal to arrest our attention and cause us to make a most thorough investigation of the condition before us.

Flexion is also often an important symptom, and is associated with muscular rigidity, which is one of the earliest and most persistent symptoms of joint disease.

The writer is not unmindful of the difficulty sometimes encountered in a differential diagnosis of tubercular arthritis from the several other inflammatory diseases involving the joints. But it does seem that by a most careful analysis of the cases presenting to us distinct joint lesions we should be able in most cases to make a differential diagnosis.

The tendency of tubercular arthritis is toward destruction of the joint, with subsequent attempts at ankylosis of the two surfaces, either by bony or fibrous tissue, and frequently in a bad position. The patient, however, who is thus left to an uncertain nature, may die of a long-continued suppuration, the result of a mixed tuberculous infection before this process is completed.

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* Read before the Mississippi Valley Medical Association.

We have in the tuberculin test a most certain agent in rendering a diagnosis possible. You are all no doubt familiar with its use for diagnostic purposes, so that I shall only treat of the most salient points to be observed in its use. The patient's temperature line and other conditions should be most carefully noted for two or three days prior to the injection, when the patient should again be carefully observed and a careful comparison of the temperature curve made. If we have a deposit anywhere, we get the tuberculin reaction—chill, fever, etc. If no reaction follows the injection within forty-eight or sixty hours, and we have reason to suspect the presence of the tubercular disease, then we are warranted in a second injection. The most perfect asepticity is to be observed.

The writer is aware of the dangers to be encountered from its employment, but does not consider them nearly so great as the evil consequences of a so-called expectant or do-nothing plan of treatment as a result of the uncertainty of early diagnosis in these cases. Of course, the dangers should be carefully considered and compared with the expected benefits to be derived by reason of a certainty in diagnosis before resorting to its use.

In coming to the question of treatment of this very prevalent disease it is the purpose of the writer to advocate a most radical plan, which should be adopted just so soon as a diagnosis has been made. He believes that the great majority of the varied and many kinds of expectant and waiting plans of treatment are unscientific, and not founded on facts. This statement is borne out by statistics which show a most unsatisfactory state of results. It may be safe to rely on rest, fixation of joint, fresh air, etc., for the first ten days or two weeks, provided an early diagnosis has been made. It is a mistake to delay active interference for weeks, depending on an already weakened and incapacitated nature to arrest the disease process, and our error is usually repaid by the formation of pus, bone necrosis, ankylosis, loss of limb, or possibly loss of life. If we but return for a moment to the pathology of this condition we must be impressed with the error of these older and generally accepted plans of treatment.

The surgical treatment of tubercular joints presents for our consideration the following operative procedures, according to the state of advancement of the joint involvement: Arthrotomy, arthrectomy, excision or resection, and amputation.

By the early and free opening of the affected joint, thus insuring free drainage, and thoroughly irrigating it with a hot normal saline solution, the writer has gotten some eminently satisfactory results. The irrigation should be repeated daily for a week or ten days, or even longer, according to the degree of involvement. Even where the process has gone to suppuration or beginning necrosis we may expect the most marked benefits from this plan of treatment, which is especially to be commended in all patients under 18 years of age, for by the more radical operations we may destroy the epiphyses, with consequent arrest of development or growth. However, in the advanced state of the disease, whether in the adult or the child, the more radical operations are not only advisable, but are imperatively demanded to save usefulness of limb, or at least limb if possible, and sometimes life. Where necroses with fistulæ have formed, their removal by arthrectomy or excision is to be insisted on. It is especially in the smaller joints that the most satisfactory results are obtained by arthrotomy and arthrectomy.

To recapitulate, the importance of an early diagnosis can not be overestimated. The early adaption of some of the radical means of treatment for this disease in its incipiency with eminently satisfactory results, seems to the writer to be founded on scientific reasons, especially so when we are brought face to face with the facts that a postponement of their application means that a little later on we are forced to adopt them when these same conditions have reached an advanced state of destruction, and that, too, with less satisfactory results. Finally, no surgeon not imbued with the fullest sense of his duty looking to the most perfect technic should attempt these radical operations.

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# DIPHTHERIA OF THE NOSE.

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Diphtheria of the nose will be here considered as a primary disease, and distinguished from the more common variety in which the diphtheritic inflammation of the nasal passages is secondary to diphtheria of the throat, or even from that form which is sometimes found in epidemics, in which the diphtheritic process originates in the mucous membrane of the nose, but soon appears in its usual form in the throat.

In its characteristics, diphtheria of the nose differs widely from diphtheria of the throat. The constitutional disturbances are frequently so mild that they attract little attention on the part of the patient, and in the majority of cases, the physician is appealed to only on account of the continued obstruction of the nostrils or the attending epistaxes. Renal and neurotic disturbances are rare, and paralysis of the velum palati, so frequently found in ordinary diphtheria, is not referred to in the literature on the subject. The absence of these complications is worthy of remark, on account of the greater absorbing capacity of the nasal mucosa as compared with that of the throat. We are all familiar, for instance, with the rapidity with which cocain is absorbed in the nostril and the greater tendency to constitutional disturbances than when this alkaloid is used in the throat.

In primary diphtheria of the nose, as in diphtheria of the throat, a fibrous exudate forms on the mucous membrane. This pseudomembrane may be removed, but the attempt is usually followed by bleeding and the membrane reforms. The constitutional disturbances are not marked, and resemble the first stage of an ordinary coryza. The main annoyance to the patient is the interference with nasal respiration and the discharge from the nose. Epistaxis is not uncommon, and frequently is the first symptom that attracts the attention of the patient or of the parents to the unusual character of the nasal affection.

As in diphtheria of the throat, the bacilli are located in the mucous membrane and do not spread through the system. The constitutional disturbance, when present, is due either to the local irritation, the absorption of toxins, or the effects of the interrupted or impeded nasal respiration.

The discovery of the Klebs-Loeffler bacillus has been of invaluable assistance in demonstrating that diphtheritic rhinitis is the same morbid process as diphtheria of the throat. Every case, in which a pseudomembrane is found in the nasal passages and which is not due to the application of the electrocautery or acids, should be examined for the Klebs-Loeffler bacillus.

In primary diphtheria of the nose, the early symptoms, as already stated, resemble to some extent those of an acute coryza, for which they are frequently mistaken. There is the usual elevation of the temperature, headache and general discomfort. In the first stages, the mucous membrane of the nostrils is congested as in a coryza, followed by, first, a watery and afterwards a mucopurulent discharge. A tendency to epistaxis develops later, being due to partial loosening of the pseudomembrane, the hemorrhages sometimes occurring several times a day.

This stage of nasal diphtheria is rarely seen by the physician, owing to its being mistaken for an ordinary "cold." When fully developed, a rhinoscopic examination shows the mucous membrane swollen and covered with a thick pseudomembrane, white or light gray in color, and which may be limited to a portion of one nostril or may cover the entire surface of both nasal cavities. In the early stages, one nostril only is involved, but later both show the results of the diphtheritic inflammation. If both nostrils are affected, the nasal respiration is much obstructed, and may even be entirely interrupted.

In mild cases, the healing process begins to assert itself by the second week, but may be prolonged to a much greater length, and sometimes as long as two months. In ordinary cases, there may be afterward found no result of the diphtheritic inflammation, but in aggravated cases, in which there has been loss of substance, this is followed by cicatricial tissue, and sometimes by synechia, which may interfere greatly with normal nasal respiration. Such aggravated cases are very rarely found in primary nasal diphtheria, the cases reported being complications of diphtheria of the throat, and then only in severe epidemics.

Primary diphtheria of the nose is so unusual an affection and ordinarily so mild in its character, that the ordinary methods of isolation are not always easy to enforce in the families where it appears. This also applies to the question of reporting such a case as an infectious disease to the board of health. I recall a case in which I had diagnosed diphtheria of the nose, and accordingly sent a culture to the state bacteriologist for examination. A positive report of the presence of the Klebs-Loeffler bacillus was sent me, the board of health at the same time, in accordance with the law, posting on the residence of the patient the white flag, indicating the presence of diphtheria. The father soon afterward called at my office in great excitement and objected strenuously to the flagging of the house. On my refusal to request the board of health to remove the flag, he showed me a certificate from his family physician certifying that he had examined the child and found it to be affected only with "simple catarrh." I am unable to state the subsequent history of this case, but it illustrates the effect of the rarity and mild effects of the disease, not only with the laity, but even with some members of the medical profession.

In making a bacteriologic examination of the nostrils in such cases, one negative result is not decisive. The duration of the disease is usually several weeks, and if the first result is negative, other cultures should be made before concluding definitely that the pseudomembranous process in the nose is not of a diphtheritic character. As an illustration of this, Concetti[1] reports a case in which the first bacteriologic examination was negative, but two weeks later the culture developed large colonies of the Klebs-Loeffler bacillus.

The prognosis in the ordinary form of nasal diphtheria is good, the cases usually making a good recovery. In the gangrenous form reported by some authors, however, the prognosis is very grave, and where septic disturbances have developed, it may be hopeless. Fortunately the latter cases are of extreme rarity.

My treatment of diphtheria of the nose consists simply in syringing the affected nostrils with a 25 per cent. solution of peroxid of hydrogen, this being followed by a free douching with the normal saline solution. Bichlorid and carbolic solution, recommended by some authors, should be avoided on account of the danger of the solution entering the stomach.

The question of the use of the diphtheria antitoxin in such cases is one on which I would invite an expression of opinion from the members of this Section. As already stated, the disease is usually so mild in its development, and sets up so little constitutional disturbances, that, from the standpoint of therapy only, it does not seem to be indicated as in the usual forms of diphtheria.

As to the influence of the antitoxin on the duration of the disease, I am not prepared to make a statement, although the point is an important one. While it is by no means as infectious as diphtheria of the throat, still the fact that the Klebs-Loeffler bacillus is found, indicates possibilities of infection, and therefore a remedy which would shorten the duration of the disease without involving any special danger, should naturally be recommended. In regard to infection, however, I find but little stated in the literature on this subject, and, in the cases which have come under my observation, no second case has developed in the families in which I have been called on to treat the disease. This can not be due to the antiseptic character of the treatment, as in the majority of cases which I have seen, the diphtheritic rhinitis had existed for a number of days, thus giving ample opportunity for infection had there been any special tendency to it. Owing to the presence of Klebs-Loeffler bacillus, however, I always insisted on the same isolation as in the usual form of diphtheria.

**Resistance of Bacteria to Pressure.**—Chlopin and Tammann, in the *Zeitschrift f. Hygiene u. Inf.-Kr.*, xlv, No. 2, 1903, report from Dorpat tests of the resistance of bacteria to pressure up to 13,000 kilograms per square centimeter, equivalent to 2,900 atmospheres. None of the bacteria was killed by this pressure, and one application produced scarcely any impression on them. But six repetitions of compression had an evident inhibiting action. Pneumonia and cholera germs are much less resistant than those of pseudo-diphtheria and anthrax, while yeasts are like the last, extremely resistant.

**Intestinal Origin of Tuberculosis.**—The *Klinisches Jahrbuch*, ii, No. 4, 1903, contains the report of extensive experimental and clinical experience bearing on the question of the intestinal origin of tuberculosis. The author, Nebelthau, states that in his material at Halle direct transmission of the tuberculosis from other persons was evident in all the cases in children. His experiments on animals showed that the tubercle bacilli were able to penetrate the intact intestinal wall, and induce lesions beyond, with no trace of their presence in the intestines. He found goats much more susceptible than dogs, and believes that children rank with goats in this respect. He advocates prophylactic measures to prevent transmission of both human and bovine tuberculosis by way of the respiratory apparatus and the digestive tract.

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[1] Centralblatt f. Laryngologie, vol. viii, p. 503.

# ACUTE, SUBACUTE AND CHRONIC INFECTIOUS OSTEOMYELITIS;

## ITS PATHOLOGY AND TREATMENT[*]

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### INTRODUCTION.

The object of this paper is to state the sequence of the changes which occur in the bones in infectious osteomyelitis; to emphasize the difference in the pathologic conditions which exist during the acute, subacute and chronic stages of the disease; and especially to suggest certain operations which are indicated by the pathologic conditions that exist during the different stages, and which generally are not appreciated. These operations, properly carried out, offer a very certain cure for conditions which, if allowed to persist, cause recurrent attacks of local infection or produce chronic and frequently incurable destruction of bone with permanent disability.

The statements made here are based almost entirely on personal work carried on for the past eight years. The work has included examination of pathologic material obtained from operations or necropsies on cases occurring at the Boston City Hospital and the Children's Hospital, experimental work at Harvard Medical School, and clinical cases, most of which were seen during my own tour of duty at the Boston City Hospital. A few other clinical cases have been furnished by the great kindness of my colleagues on the hospital staff, who have allowed me to see the patients and present the records of the cases.

### DEFINITION.

Infectious osteomyelitis is an acute suppurative inflammation of the bone, and is always due to infection of the bone marrow by pyogenic microörganisms. The process is essentially like the process seen in a furuncle, and has been graphically called "bone furunculosis," although the process in bone is somewhat modified by the peculiar anatomy of the tissue. In bone the process begins in the marrow of the alveolar spaces, which communicate freely with each other, but are enclosed by a dense shell of cortical bone. Hence the process, at first circumscribed, may quickly involve the entire marrow of an infected bone, because the products of bacterial infection are retained within a shell of dense bone, and the primary focus can be reached only by an extensive bone operation.

### CAUSE.

The direct cause of acute infectious osteomyelitis is always an infection by some pyogenic bacterium. The organism which most frequently is the cause is the *Staphylococcus pyogenes aureus*, e. g., Lannelongue[1] and Achard[2] found that of 130 cases of osteomyelitis 103 cases gave a pure culture of that organism. In some thirty primary cases of my own all but four were due to the same organism. The staphylococcus produces, as a rule, the most typical and extensive bony destruction. Sometimes the *Staphylococcus albus* or *citreus* is present in pure cultures, and Lexer[3] says that the character of the lesions is the same as that of those produced by the aureus, and the lesions can not be distinguished clinically. The bone lesions frequently are secondary to suppurative lesions elsewhere in the body, e. g., furuncle or carbuncle, and the organisms are carried to the bones by the blood.

In a few cases the infectious organism is the *Streptococcus pyogenes*. In some cases the lesions produced by the streptococcus are like those produced by the staphylococcus and can not be distinguished clinically, but these cases are rare.[3] As a rule, the streptococcus has a tendency to affect the joints, to cause separation of an epiphysis, or to attack the superficial portion of the bone and cause a periostitis rather than a diffuse osteomyelitis. Such bone infections frequently occur in infants from mothers with septicemia, and may be due to infection during delivery. Or they may be secondary to phlegmon or erysipelas. Osteomyelitis produced in young animals by inoculation with streptococcus does not differ from that produced by the staphylococcus.

In still other cases[4] Fränkel's pneumococcus causes osteomyelitis. The appearance and distribution of the lesions vary, but on the whole the tendency is the same as in the case of the streptococcus, i. e., to a superficial or joint infection. These cases may occur secondary to pneumonia, pleurisy, or empyema, or the point of primary infection may be hidden.

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[*] Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

[1] Lannelongue: Statistique Microbienne de l'Ostéomyélite Aiguë. Rev. de Chir., 1895.

[2] Lannelongue and Achard: Sur la Présence du Staphylococ. Citreus dans un Ancien Foyer d'Ostéomyélite. Arch. de Med. Exper. et d'Anat. Path., 1892.

[3] Lexer, E.: Die Aetiologie und die Mikro-organismen der akuten Osteomyelitis. Volkmann's Klinische Vorträge, N. F., 173, p. 659.

[4] Fischer and Levy: Bacteriolog. Befund bei Osteomyelitis und Periostitis, Deutsch. Zeitschr. f. Chir., 1893.

Not infrequently the typhoid bacillus may cause suppurative areas in bone, and Keen[5] has collected thirty-eight such cases, in fourteen of which the bacillus was present in pure cultures. As a rule, such lesions are of small extent and superficial and the destruction of the marrow is slight unless a secondary infection with some pyogenic organism occurs. The cases generally occur quite late in the course of typhoid fever.

As a rule, the infecting organism is present in pure culture, but sometimes a mixed infection occurs, and such cases are said to be especially severe. In cases of chronic osteomyelitis with open sinuses and exposed bone a great variety of organisms, pathogenic and saprophytic, may be present. In one such case with a very foul-smelling discharge, I found the *Bacillus fetidus*. Secondary infections with the colon bacillus, the pyocyaneus and anthrax have been reported.

Therefore, infectious osteomyelitis is not a specific disease, but is an acute inflammation of bone that may be produced by any one of a variety of pathogenic organisms, or by a mixed infection. Any[3] pyogenic organism which can be carried in the blood stream may be deposited in the bone and produce suppuration. Some show great tendency to such an action, others but little; some settle by preference in the bone marrow, others at the periphery in the periosteum or in the joints; some tend to act at the point of greatest bone activity, others at points of injury.

*Experimental Proof.*—This has been proved by experiments on animals by many observers. Characteristic osteomyelitis has been produced in the bones of animals by injection of pyogenic organisms into the nutrient arteries of the bones, or by direct injection of organisms into bone marrow, or by fracturing bones and inoculating animals subcutaneously. For such inoculation experiments the *Staphylococcus pyogenes aureus*,[6] the *Streptococcus pyogenes*, the pneumococcus and the typhoid bacillus have been used. Ackermann[7] has produced it by injecting large numbers of the colon bacilli. Ullman produced "sterile abscesses" in bone by injecting an emulsion of calomel directly into the marrow. The gross and microscopic appearance of the experimental lesions was the same, no matter what the cause.

### PREDISPOSING CAUSES.

Certain general causes favor the occurrence of osteomyelitis. The disease usually occurs in individuals whose bones have not attained complete development, i. e., in children or adolescents, although it is not rare in adults, and sometimes occurs in advanced life, as shown in a case reported by Bottomley.[8] About one-half of the cases occur between the ages of thirteen and seventeen, although young children often are infected. The disease is said to occur in boys about three times as often as in girls. The disease frequently appears after extreme fatigue, or exposure to cold or wet. One of the cases mentioned later came on within a few days after bathing in cold water in early spring. Injuries of moderate severity, e. g., contusions of bones, frequently precede the disease by so short a time as to suggest a possible cause, although there may have been no break in the skin. A preceding attack of some infectious disease is often noted, e. g., measles, scarlet fever, pneumonia, or frequently typhoid fever. Osteomyelitis which follows infectious diseases usually is due to a secondary infection by some pyogenic organism, e. g., staphylococcus, although both the pneumococcus and the typhoid bacillus may be the direct cause of the bone lesion. The frequent occurrence of osteomyelitis subsequent to the exanthemata probably is due to lowered resistance to bacterial infection as a result of the infectious disease, as well as to the septicemia frequently present in those diseases. Mallory has shown that in smallpox[9] and typhoid fever[10] areas of necrosis are frequently present in the bone marrow, and such areas, secondarily infected by pyogenic organisms, may well be the starting points of acute suppuration of the marrow.

Compound fractures frequently become infected by pyogenic organisms, and the bone undergoes osteomyelitic changes. In former days such infections frequently were fatal. Under modern methods the infection when it occurs generally is slight, and, since the pus usually can readily escape through the wound in the soft tissues, the results are seldom fatal, although the destruction of bone by the infection may be sufficient to greatly delay healing, and to lead to the formation of small sequestra and enduring sinuses. Sometimes the same result follows infection of bone stumps after amputations.

### METHOD OF INFECTION.

The infection of the bone often is secondary to a local infection in some other part of the body, e. g., furuncle, paronychia or chronic ulcer, and the organism carried from such a focus by the blood produces infection of the bone marrow. In some cases the organism enters the body through the respiratory tract, as when an osteomyelitis produced by the pneumococcus occurs subsequent to a pneumonia, pleurisy or empyema. Infection may occur through the intestinal tract, as when osteomyelitis is produced by the typhoid bacillus, although other types of intestinal infection are said to be rare. Ullman[6] fractured the bones of animals and then fed them with infected food, but failed to produce infection of the bone. Frequently the osteomyelitic focus appears to be the only point of infection and it may be quite impossible to detect the primary point of entrance of the infective organism.

### LOCATION.

Osteomyelitis nearly always begins in the diaphysis of the long bones, usually near the epiphyseal line. This is in sharp contrast with tuberculosis of bone, which, in the large bones at least, practically always begins in the epiphysis. Rarely, however, osteomyelitis is said to begin in the epiphysis, and so to simulate acute tubercular disease. It is my belief that such cases usually begin in the diaphysis, perforate the epiphyseal line very early, and then extend to the joint. The femur and the tibia are the bones most frequently attacked; then the humerus, but no bone is exempt, and short long bones, e. g., the phalanges or flat bones, may be affected. Usually only one bone is diseased, but sometimes several bones are affected. After one bone is diseased other bones may become involved after an interval of days or weeks. Multiple osteomyelitic lesions are, however, not common.

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[5] Keen: Surgical Complications and Sequels of Typhoid Fever, 1898.

[6] Lexer: Experiment. Erzeugung osteomyelitischer Herde. Dtsch. Med. Wochenschr., xvi, 1894; also, Ullman: Beiträge zur Lehre von der *Osteomyelitis* acuta. Wien.

[7] Ackermann: Lésions Ostéomyélitiques provoquées par le Bact. Coli Comm., Arch. de Med. Exp. et d'Anat. Path., 1895.

[8] Bottomley, J. T.: Acute, Non-traumatic Multiple Osteomyelitis Due to the Streptococcus in an Adult, THE JOURNAL A. M. A., July 25, 1903.

[9] Mallory, F. B.: Ueber die Verbreitung der *Osteomyelitis* variolosa im Knochensysteme., Zeitsch. f. Heilkunde, vol. xv, 1894.

[10] Mallory, F. B.: A Histologic Study of Typhoid Fever, Jour. Exp. Med., iii, p. 611, 1898.

### PATHOLOGIC PROCESS.

The primary area of infection is always, apparently, in the bone marrow. The bony trabeculæ and the cortex are destroyed only secondarily, and their destruction and solution is usually slight in the early stages, although in the later stages the destruction may be very extensive. The process almost always begins in the diaphysis of the long bones, frequently near the epiphyseal line. Rarely, however, the process is said to begin in the epiphysis, and then may extend into the adjacent joint early. After the organisms gain access to the marrow cells they multiply and produce a soluble toxin which causes necrosis of the adjacent marrow cells. Since the cortex is relatively impermeable while the marrow spaces allow free communication and extension of the infection, necrosis of a very considerable portion of the marrow of a long bone may take place before marked purulent infiltration occurs. In such a case the marrow may appear gelatinous and injected to the naked eye, while under the microscope the marrow cells everywhere are necrotic, and among them are numerous colonies of the infecting organism. As a rule, purulent exudation of polynuclear leucocytes with extensive solution of marrow cells appears early. Then the bone is, on being sawed open, mottled with numerous yellow or greenish areas of suppuration, together with reddened areas of injection or hemorrhage. Solution of the soft tissue of the marrow is usually great. Sometimes even in the early stages there is some solution of bony trabeculæ, with the formation in the spongy bone of cavities containing serum, necrotic cells and leucocytes. Hence "bone abscesses" appear, but these usually are small. The infection may very rapidly extend along the entire marrow canal of a long bone. The extension, however, is always more or less irregular, apparently because of the irregular communication between adjacent alveolar spaces, due to the irregular arrangement of the bony trabeculæ, so that the bone nearly always shows a mottled red and yellow appearance from the presence of necrotic and injected and purulent areas, while small areas of relatively unaltered marrow may persist in close proximity to the altered areas.

The infection usually extends quite early through the dense cortical bone, probably along the haversian canals, and produces an inflammatory exudation and suppuration between the periosteum and the outer layer of cortical bone, i. e., a subperiosteal abscess, and may strip the periosteum from the bone over a great extent or completely. The infection may also extend to adjacent soft tissues, and cause myositis, or a subcutaneous inflammation, or an abscess. Such an abscess may be very extensive, and has direct communication with the marrow of the bone, although the point of communication may not be detected readily. Finally such an abscess may extend to the surface and break through the skin at one or more points, although such an event rarely occurs spontaneously in severe cases, since fatal toxemia and septicemia frequently occur before spontaneous evacuation. If such a spontaneous evacuation does occur, sinuses leading down to dead bone may persist indefinitely.

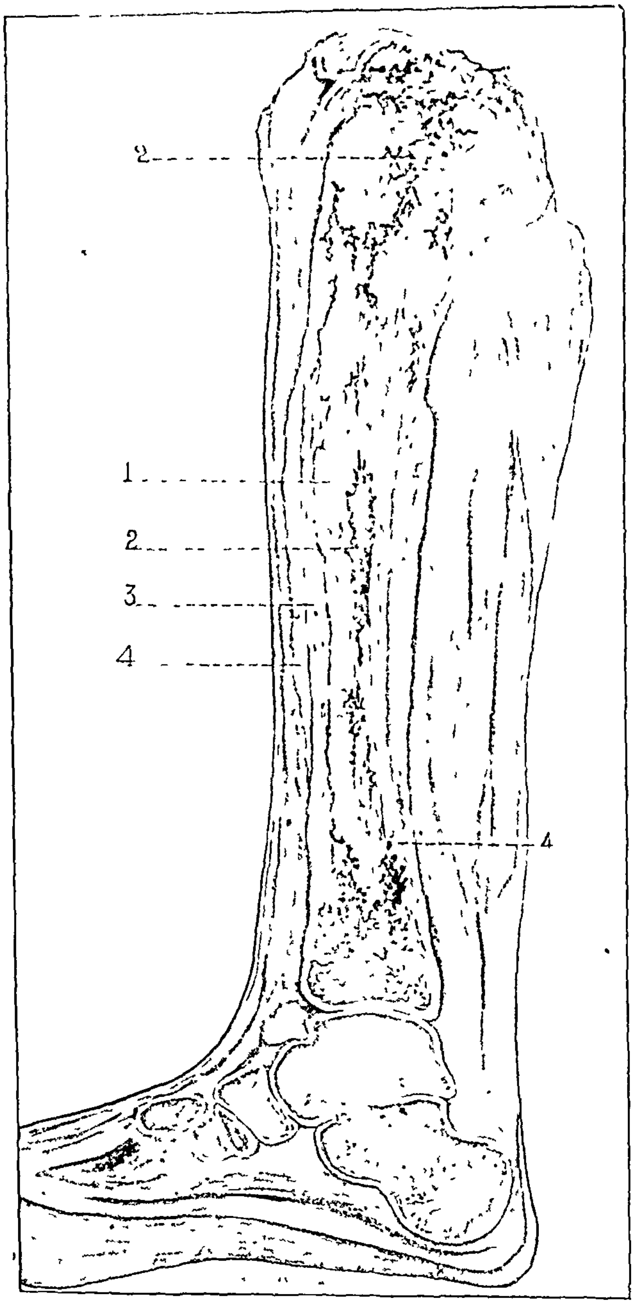

Figure 1.—Vertical antero posterior section through the leg and foot of a case of infectious osteomyelitis Duration about seven weeks 1. Areas of suppuration 2. Areas of injection and granulation tissue. 3 Necrotic cortical bone. 4. Newly formed periosteal bone, but still plastic This is the best stage for the operation Upper epiphysis invaded by suppuration Below process checked by epiphyseal line.

As a rule, the infection is checked and confined to the diaphysis by the epiphyseal line. In some cases, however, especially in older children or adults in whom the epiphyseal line is partly or completely ossified, the infection extends through the epiphyseal line, involves the epiphysis, and then may extend to the joint and produce a purulent inflammation of the synovial cavity and more or less complete destruction of the joint. Or there may be a destruction of the epiphyseal line and a separation of shaft and epiphysis—"spontaneous fracture."

The cortical bone usually becomes necrotic over considerable areas. The extent to which cortical necrosis occurs depends partly on the extent of the destruction of the endosteum and partly on the amount of separation of the periosteum from the shaft. If the periosteum is stripped from the cortical bone for any great extent, necrosis of at least the outer layer of the underlying cortical bone is likely to occur. On the other hand, if much of the endosteum which lines the shaft and covers the trabeculæ is destroyed by the inflammation, a corresponding necrosis of the inner layers of the cortex or of the trabeculæ will occur.

If the periosteum is separated from the cortical bone about its entire circumference, as frequently happens in these cases, necrosis of the entire circumference of the cortex, at least in its superficial layers, may occur. If, internally, the entire circumference of the endosteum is destroyed, the entire inner circumference of the cortex may become necrotic, at least in its inner layers. If periosteum and endosteum both are affected at any given level, a complete necrosis of the shell of cortical bone may occur. Since the amount of destruction of the endosteum and the extent of the stripping of the periosteum vary greatly in individual cases, the extent of necrosis of the cortical shell also varies within very wide limits. Sometimes the entire shaft of cortical bone may be destroyed relatively early in the disease. In other cases only a long sliver of the outer layer of the cortex may become necrotic, and ultimately be separated as a sequestrum, without opening into the marrow cavity.

In nearly all cases, because of the impermeability of the cortical bone and the consequent rapid extension of the suppuration over a large extent of marrow, the area of suppuration from which absorption takes place is large, the difficulties in the way of spontaneous or artificial evacuation are great, while symptoms of toxemia and septicemia appear early and are extreme.

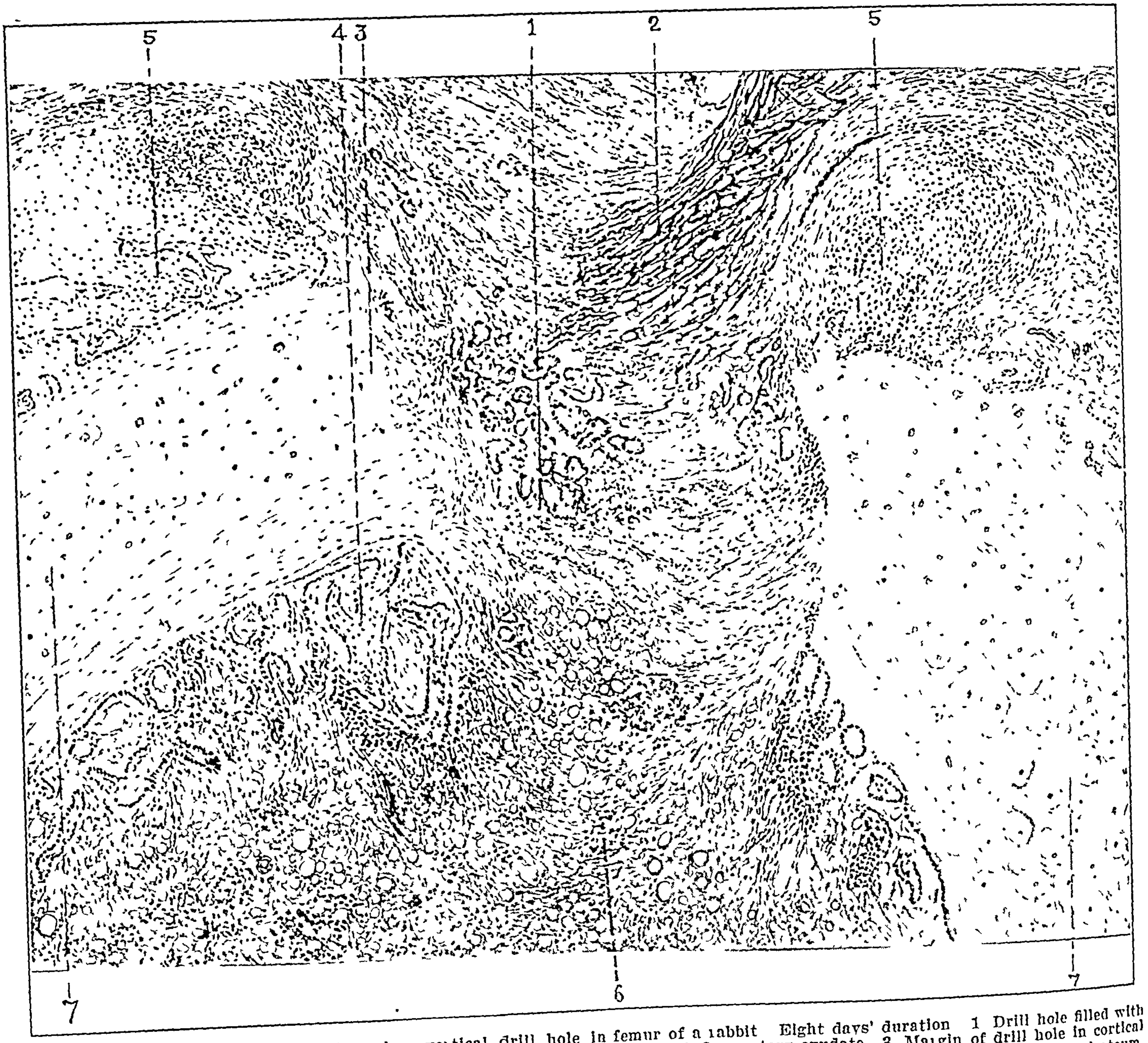

Figure 2—Transverse section through a vertical drill hole in femur of a rabbit Eight days' duration 1 Drill hole filled with loose fragments of bone and granulation tissue 2 Remnant of fibrin from inflammatory exudate. 3 Margin of drill hole in cortical bone; no proliferation of this dense bone. 4 Internal callus, arising from endosteum 5 5 External callus arising from periosteum, partly preformed cartilage, and partly direct bony formation 6 Scar tissue in narrow canal, coming chiefly from reticulum of marrow. 7. 7. Cortex of femur.

### REPAIR.

If from spontaneous evacuation of the abscesses, or from operation, a fatal result is avoided, the infectious process may become limited and the process of repair may begin. The reparative process produces peculiar and important gross pathologic conditions, due to the peculiar anatomic conditions found in bone. In general, repair within the shaft is brought about by the formation both of granulation tissue which arises from the reticulum of the marrow, and of new bone which arises from the endosteum. As a rule, a portion of the infected marrow and cortex becomes necrotic over a greater or less extent and persists, for a time at least, as a bony "sequestrum." Outside of the shaft the periosteum becomes more or less separated from the underlying necrotic shaft, proliferates, and produces a shell of new bone, which surrounds the necrotic original shaft with a shell of new bone,, i. e., forms an "involucrum." An understanding of each of these steps demands an accurate consideration of the process of repair of normal bone, as studied in experimental lesions in animals.

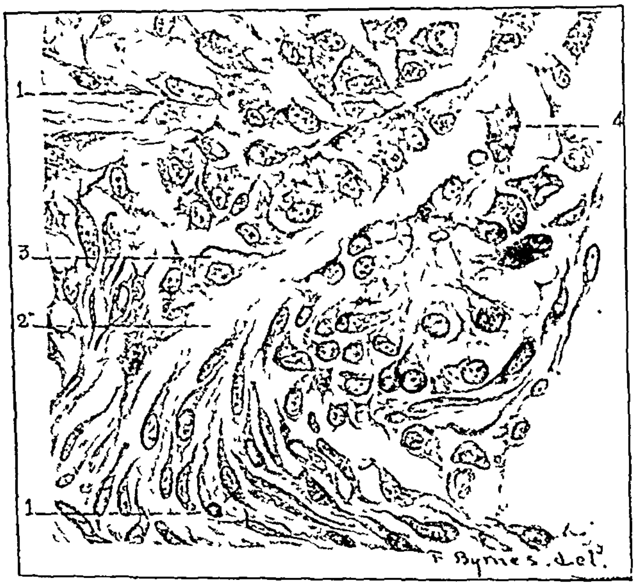

Figure 3.—High power of cells derived from endosteum showing formation of early osteoid trabeculæ. 1, 1. Epithelioid cells, with fibrillar intercellular material. 2. Intercellular material becoming homogeneous, previous to deposit of lime salts, "osteoid" trabecula. 3. Epithelioid cell on surface of osteoid trabecula, "osteoclast." 4. Epithelioid cell retained in osteoid trabecula, to become "bone corpuscle."

### REPAIR OF UNINFECTED EXPERIMENTAL FRACTURES.

The process can best be studied in bones in which a loss of bony tissue is produced without dislocation of the fragments, e. g., by drilling a small hole vertically into the bone. In this way the process of repair can be studied without the complications which arise in complete fractures.

In such fractures hemorrhage occurs, followed in a few hours by an inflammatory exudate. By the second day reparative proliferation occurs. The proliferation occurs within and outside of the cortex of the bone. The external proliferation arises from the periosteum, and consists of a mass of epithelioid cells, which soon become spindle-shaped and are accompanied by young blood vessels derived from adjacent blood vessels. This mass of cells forms the early "external callus." The internal proliferation arises partly from the layer of cells lining the inner surface of the cortex (endosteum) and partly from the connective tissue reticulum of the marrow, and forms a mass of cells in the shaft similar to those produced by the periosteum. This mass of cells forms the early "internal callus." By the fourth day a homogeneous intercellular substance appears between some of the cells of the internal callus, the early "osteoid" tissue. Fusion of adjacent areas of such osteoid tissue forms the early outline of new trabeculæ in the internal callus. Some of the proliferated cells are included in the osteoid areas, and are converted into the bone corpuscles of the osteoid trabeculæ, while others of the cells assume a polygonal shape, persist at the periphery of the trabeculæ and take on the function of depositing bone, i. e., become "osteoblasts." The cells which carry on these functions apparently are derived from the cells which arise from the endosteal cells, although in the early stages they can not be distinguished morphologically from the fibroblastic cells derived from the connective tissue reticulum of the marrow. Ultimately there comes a deposit of lime salts in the osteoid trabeculæ of the internal callus, and so the bony trabeculæ are formed. Besides the proliferation of endosteal cells there is a proliferation of the connective tissue of the marrow reticulum, and fibroblastic cells, which ultimately forms a scar within the cortex, are produced. New blood vessels arise from preëxisting blood vessels.

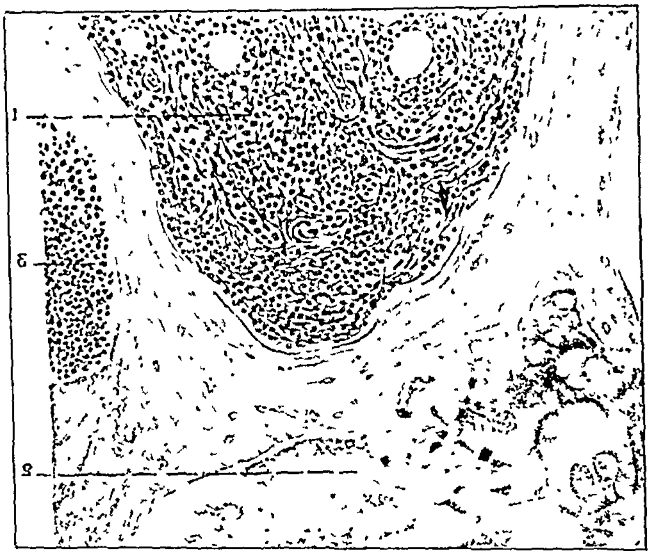

Figure 4.—Adjacent alveolar spaces in marrow of osteomyelitis of tibia, duration about ten days. 1. Alveolus filled with granulation tissue. 2. Alveolus filled with serum and entirely necrotic cells, among which are numerous colonies of staphylococci. 3. Alveolus filled almost entirely with polynuclear leucocytes.

A formation of bony trabeculæ in the external periosteal callus takes place in an exactly similar way.

The cortical bone in experimental fractures seems to have very limited or no power of proliferation, and the space in the cortical bone at first is filled with hemorrhage and exudation only, until the external and internal calluses project in from either side, meet, and fuse. After the fusion, new trabeculæ appear in the gap in the cortical bone. These are at first entirely free from the cortical bone, but finally become fused with the calcified portion of the cortex and thus form the "intermediate callus."

At first the newly-formed osteoid or osseous tissue is very vascular and formative osteoblasts are numerous. Later the blood vessels are much less numerous, the cellular elements are fewer, and the trabeculæ become laminated and have the same appearance as in normal bone.

### REPAIR IN OSTEOMYELITIS.

The general process in the repair of osteomyelitic bone is the same, but some of the special steps are modified by the degree, extent and character of the destructive process and by the persistence of the sequestrum. The steps will be described as they occur in the marrow, the cortex and the periosteum. It should be borne in mind that the endosteum covers all of the calcified trabeculæ as well as the inner cortical wall.

*Marrow.*—As has been mentioned, adjacent marrow spaces in the early stages may be normal, or show slight necrosis with little leucocytosis, or may be entirely necrotic, or the cells may be dissolved and the space filled with purulent exudation. Consequently the amount of proliferation in adjacent spaces after repair begins may vary a great deal.

The connective tissue of the reticulum of the fat marrow may proliferate to a great degree, and surround purulent areas with a more or less complete zone of granulation tissue, or in some cases may entirely fill up the marrow spaces at a given level, and so form a band of at first granulation, later dense scar tissue, thus separating the necrotic and infiltrated portion of the shaft from the sound portion. In a case of spontaneous osteomyelitis the scar tissue is likely to be irregularly distributed throughout the shaft surrounding the infiltrated areas. In compound fractures especially a definite transverse zone of granulation or scar tissue often separates the infected portion from the sound shaft. At first the granulation tissue may be edematous and show infiltration with lymphoid and plasma cells and numerous leucocytes. Later it becomes dense scar tissue. If a definite abscess has formed, it may be completely surrounded by a zone of scar tissue.

Beside the proliferation of connective tissue from the reticulum there may be a proliferation of the endosteum both from the inner wall of cortical bone and from the endosteum covering any of the trabeculæ. This may lead to a deposit of bone on the inner wall of the cortex, and to a thickening of the bony structure of the old trabeculæ, or to the formation of new trabeculæ. If such endosteal proliferation takes place it leads to a thickening of old bony structures and a formation of new ones which may surround infiltrated or necrotic areas with a wall of bone of increased density, or form a barrier of bone between necrotic and sound portions of the shaft; or, if the abscess is a local one, may entirely surround such an abscess, or may lead to an obliteration of the marrow canal at a given point.

Since the extension of the destructive process is very irregular, the distribution of the granulation tissue and endosteal bone may be correspondingly irregular, and may be diffusely scattered throughout the bone, may cause bony or fibrous encapsulation of diseased areas, or may divide diseased areas from sound portions of the shaft.

*Cortex.*—As has been said in discussing the repair of experimental fractures, dense cortical bone has very little or no power of direct repair. Repair of any considerable amount of necrosis of cortical bone depends entirely on the integrity of the endosteum within, and the integrity and adhesion of the periosteum to the outside of the cortical bone. If the endosteum is intact, the inner layer of the cortical bone may retain its vitality. In some cases in which the periosteum is entirely stripped from the underlying cortex, the cortex at the time of

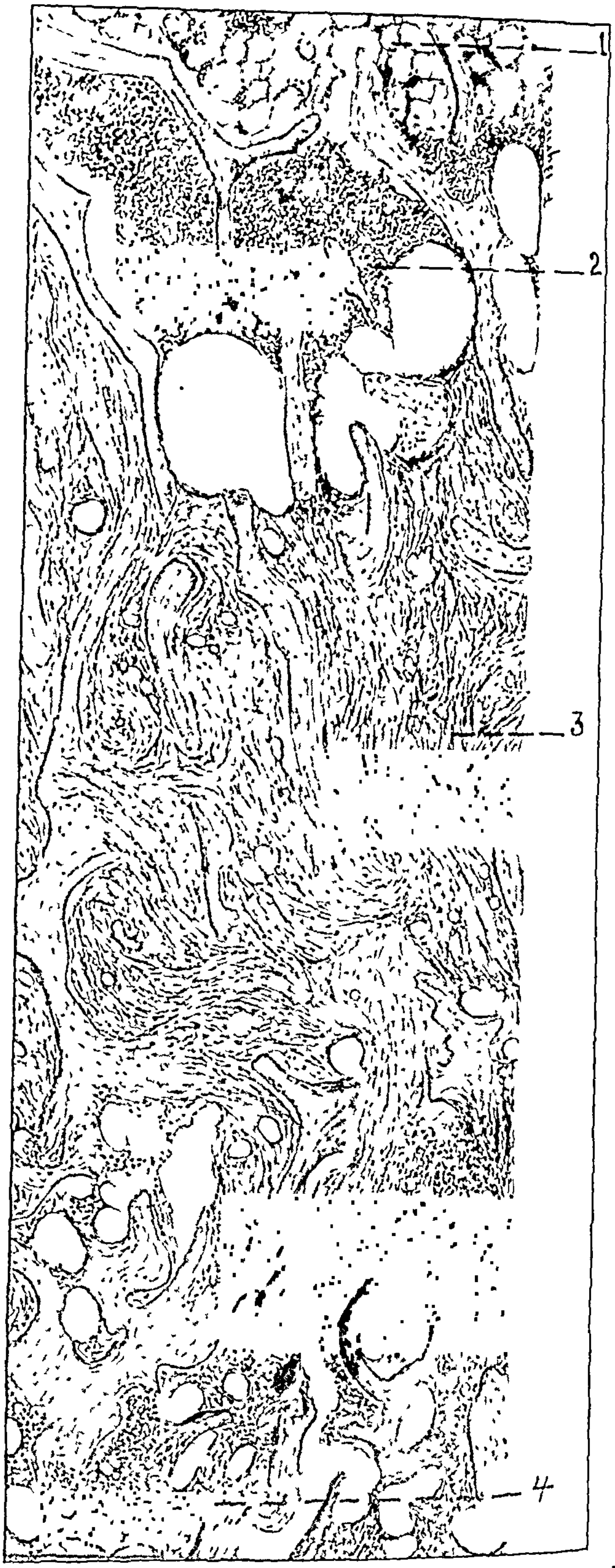

Figure 5.—Vertical section through an osteomyelitic compound fracture. 1. Alveolar spaces filled with necrotic cells and serum, with many colonies of staphylococci 2. Zone of polynuclear leucocytes in alveolar spaces. 3. Zone of scar tissue filling alveoli and separating infected bone from (4) normal red marrow and granulation tissue in alveoli.

operation may appear white, non-vascular and necrotic; but if the pus is entirely removed, it is certain that to a considerable extent the periosteum returns to its normal position, becomes adherent to the apparently necrotic cortex and maintains or renews its vitality. This adhesion of periosteum may be complete over the entire shaft, or more commonly takes place over only a part of the shaft, and fails to take place in other portions. This partly explains the occasional very irregular distribution of the necrosis of the cortical bone as seen in some sequestra.

The necrosis and inability to repair of the cortical bone is the chief cause of the persistence of sequestra and sinuses as seen in chronic osteomyelitis. The marrow has considerable power of repair, but the cortex, if necrotic, persists as a sequestrum, and either remains indefinitely, or is discharged piecemeal, or must be removed by operation; and in either case, leaves a cavity which has usually no power of closing itself.

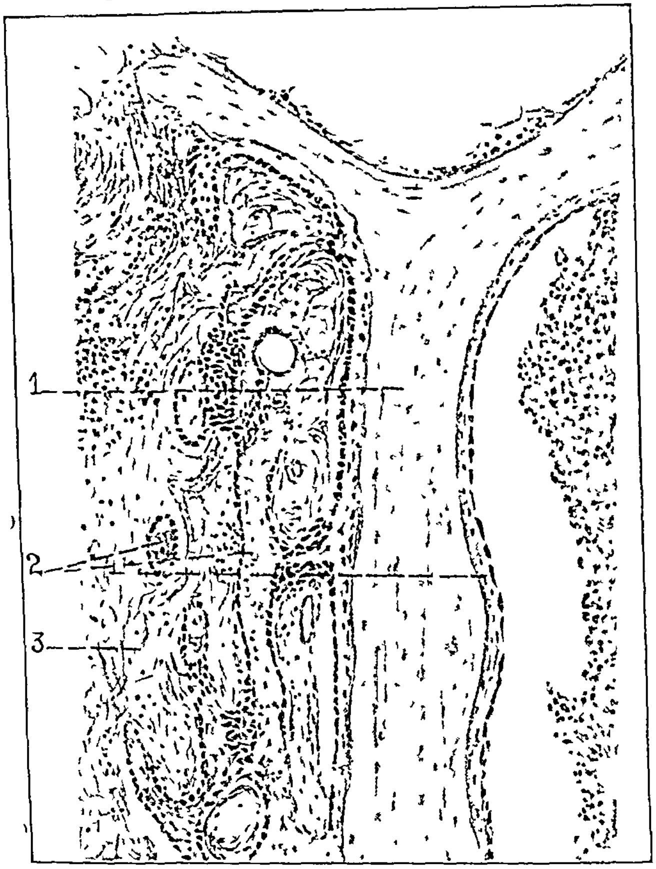

Figure 6.—Endosteal formation of bone arising from trabeculæ of marrow. 1. Original trabecula. 2. Newly-formed endosteal bone, partly adherent to original trabecula, partly appearing as new trabeculæ. 3. Alveolar spaces with granulation tissue arisen chiefly from reticulum of marrow.

*Periosteum.*—As soon as the pus has been evacuated and the inflammatory process has subsided the periosteum proliferates and endeavors to maintain the vitality of the outer layer of cortical bone, or produces new bone to replace that destroyed by the inflammation. As already mentioned, in some cases to a considerable extent the periosteum, after the pus is evacuated, again comes in contact with and adheres to the cortical bone, and the cortical bone beneath such adhesions retains its vitality. This explains the adherence of the periosteum in places to an extensive sequestrum, which throughout most of its extent is completely separated from the periosteum.

In most cases, if the periosteum has been stripped to a great extent, this adhesion between periosteum and cortex does not take place. But the periosteum undergoes a process of proliferation analogous to that seen in the formation of the external callus in fractures. The cells of the periosteum next to the necrotic cortex are polygonal and are the bone-forming cells. Between adjacent cells a homogeneous intercellular substance appears, early "osteoid" tissue, and by fusion of such intercellular material the outlines of early osteoid trabeculæ are formed. Some of the polygonal cells are enclosed in the osteoid tissue, become branched and take on the function of bone corpuscles for the new trabeculæ of osteoid tissue. Other cells remain in contact with the outer surface of the new trabeculæ and take on the function of bone deposition on the outer surface of the trabeculæ, i. e., become "osteoblasts." In this way the deep layer of the periosteum becomes converted into a thin layer of delicate new periosteal bone, usually separated from the necrotic cortical bone sequestrum. The further development of bone in the periosteum takes place peripherally, the deep layer of the membrane forming bone, the intermediate layer producing polygonal, bone formative, periosteal cells, while the peripheral layer consists of layers of spindle cells, such as are seen in normal periosteum.

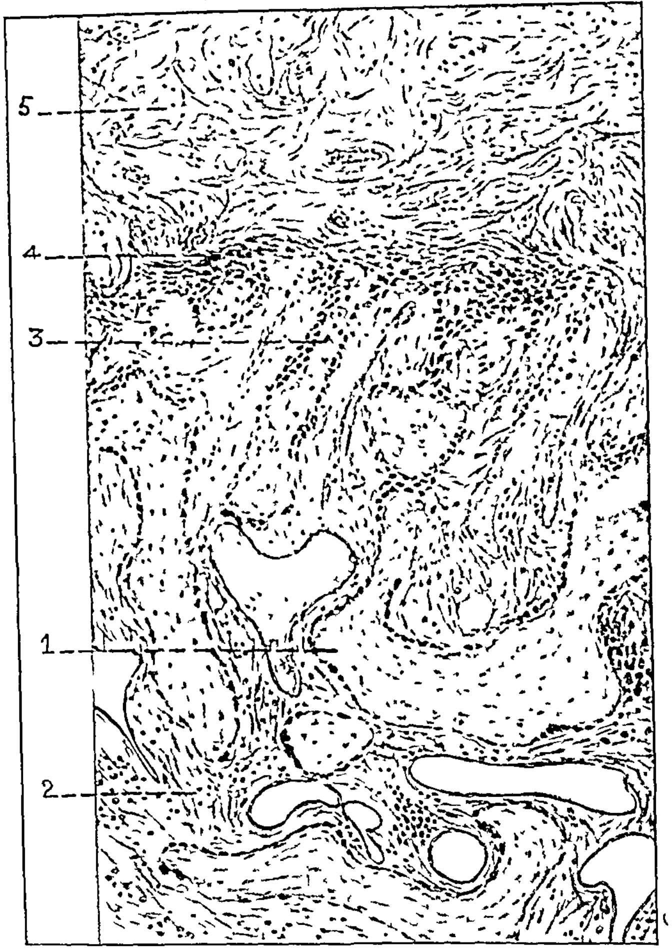

Figure 7.—Section through cortex and adherent new periosteal bone in osteomyelitis, duration about seven weeks. 1. Cortical bone trabeculæ. 2. Marrow spaces filled with granulation tissue. 3. Newly formed periosteal bone trabeculæ. 4. Osteogenetic layer of periosteum. 5. Fibrous layer of periosteum.

In the early stages the spaces between the newly-formed trabeculæ are filled with a rather myxomatous mass of cells, usually somewhat polygonal or stellate, with very delicate intercellular fibrillæ, usually very edematous. Among these cells lymphoid and plasma cells are very numerous, and occasional leucocytes are seen. Young blood vessels are numerous.

As the periosteum continues its peripheral growth with the formation of new periosteal bone, the old necrotic shaft finally becomes surrounded by a shell of newly formed periosteal bone, which, as a rule, is perforated at one or several points by sinuses for the discharge of pus from the necrotic shaft, i. e., an "involucrum" surrounding a "sequestrum" is formed. The sequestrum may lie entirely free, or, as already mentioned, may be adherent to the inner layer of periosteal bone to a greater or less extent. If there is a free space between sequestrum and involucrum the inner layer of the involucrum is lined by a layer of edematous granulation tissue from which a discharge of pus may continue indefinitely.

At first the periosteal bone is soft, partly osseous and partly osteoid, and very vascular, with myxomatous tissue in the alveolar spaces. The process of periosteal bone formation does not continue indefinitely, but continues only until sufficient new bone is formed to carry on the function of weight-bearing, i. e., at first the total diameter of new bone is greater than the diameter of the necrotic shaft was. This increase in diameter over that of the normal shaft is apparently due to the fact that the new bone is softer than normal bone, and consequently more of it is required to support a given weight than would be needed if the bone were normal. Later, as the new bone becomes denser and more like normal bone, there is a definite decrease in size of the periosteal shell, so that the total diameter of the shell may closely or exactly approximate the diameter of the original shaft.

In time the trabeculæ of the involucrum become completely ossified and osteoblasts become flattened out and approximated to the trabeculæ as an endosteum, just as in normal trabeculæ; the myxomatous granulation tissue becomes converted into fat marrow; and the entire involucrum assumes a structure like that of normal dense cortical bone or in some cases like the spongy bone of the epiphysis. Such dense bone has, just as cortical bone has, a very limited power of repair. Hence if at this late stage the sequestrum is removed, it leaves a cavity with walls composed of dense bone like cortical bone, which has very limited or no power of repair. This explains why cavities which are left after the removal of sequestra so often persist indefinitely and fail to close. This is especially the case if, at the same time the periosteal shell is forming, the marrow canal is closed by a plug of dense marrow bone, which arises by endosteal bone formation, or by a band of scar tissue which is converted by metaplasia into dense bone.

### GROSS APPEARANCE.

*Marrow.*—The gross appearances of osteomyelitic bone vary with the histologic conditions already described. In the acute stage, marrow is first affected. If examined very early, no suppuration may be seen. The marrow simply is infected and necrotic. At that time it appears injected and gelatinous. At that stage, during an operation, it may be impossible on account of the hemorrhage to be certain that any gross change is present. Usually, however, cases are not seen until suppuration is well marked. Then on opening the marrow a profuse discharge of pus takes place. This pus may be yellow, or greenish, or red from hemorrhage, or brownish from disintegrated blood pigment. Usually the pus contains many large or small oil drops from disintegrated fat marrow. This oily pus is very characteristic. At this time if the bone can be removed and sawed through vertically, the marrow presents, not a diffuse suppuration, but a mottled appearance, partly red from injected or hemorrhagic marrow, partly red or yellow from unaltered marrow, and partly yellow or greenish from suppuration. The distribution of the different areas is very irregular, and probably is determined partly by the distribution of blood vessels and partly by the facility or difficulty of extension from one alveolar space to another.

At a still later stage the appearance of the marrow is still different. The yellow areas of suppuration persist, while other portions are red and injected, but the red color at this period is due to the formation of granulation tissue in many of the alveolar spaces. In some cases, one end of the shaft may present this mottled appearance, while the other end may appear normal, while between the two there may be a pink or red band of granulation tissue entirely closing the marrow canal and separating the infected from the normal area. If the destruction of the infected marrow has been complete and the cortical bone also has become entirely necrotic, the shaft may be converted into a more or less complete bony tube, filled with dirty granular detritus and pus, and, if the bone is spongy, the necrotic trabeculæ form a mesh or frame work of brownish sponge-like structure.

*Cortex.*—The appearance of the cortex also varies with the stage of the disease. If examined very early, the periosteum is thick and edematous, injected, and is easily stripped from the bone. The bone itself looks white and shining, and often shows minute red vascular points. At a somewhat later stage the periosteum may be entirely separated from the bone by a collection of pus, oftentimes over the greater portion of the shaft. The periosteum may appear as a very considerable fusiform, fluctuating swelling or sac, often of large diameter. On incising such a sac, the bone is seen smooth, white and often dull. In the stage when necrosis of the cortical bone is complete, the cortex appears dirty white, or brownish, or black, bare, and absolutely without luster. It may be broken into spicules of varying size, or may be perforated by sinuses, or may be worm eaten. The cortex in the early stages may be partly adherent to the periosteum, even when necrosis is marked. In the later stage the necrotic shaft may lie perfectly free in the periosteal shell or in some cases portions of it may be perfectly free, while other portions of it are united to the thick bony periosteal shell or involucrum by bony adhesions, and separation of the two may be difficult. Or, if the suppurative process has lasted for years, as often happens, only a few thin worm-eaten spicules of cortical bone are seen, lying in a cavity of the periosteal shell which is covered with unhealthy granulations.

*Periosteum.*—The gross appearance of the periosteum in the early stages has been mentioned above in connection with the cortex, i. e., at first it is thickened and injected, and usually at an early stage is elevated from the bone by an extensive subperiosteal abscess. A few weeks later the periosteum is several times thicker than normal, and the deep layers are more or less rigid from the formation of bony trabeculæ, at first very delicate, pinkish white and crackling under the touch like hoarfrost. This crackling can also be detected by pushing a needle through the granulations at the edge of a sinus, when the new periosteal shell can be felt and heard to crackle under the touch of a needle. This can be used as a gross method to determine the proper time to operate (cf. infra). As time goes on, this periosteal layer increases in thickness, and finally forms a shell of variable thickness about the cortical sequestrum. The thickness of such a shell may be very great and equals, or sometimes exceeds, the total thickness of the original shaft.

This periosteal bone forms a cylindrical shell about the sequestrum and is always perforated at one or several points by sinuses for the discharge of pus. The shell, as already said, may be closely adherent to portions of the sequestrum, or may be separated entirely from the necrotic portion of the shaft, although it may be adherent by bony growth to the living shaft or to the epiphysis at the upper and lower ends of the sequestrum. If such unaltered portions of the shaft closely connected with the periosteal shell do exist, they usually are divided from the necrotic shaft by transverse bands of dense scar tissue, or more commonly in the old cases by a transverse layer or plug of very dense scar tissue or bone which frequently entirely occludes the marrow canal. In such a case the necrotic shaft lies in a cavity or box of dense ivory-like cortical bone. Such a cavity usually is lined with a layer of dirty unhealthy granulations. If the sequestrum is removed from such a cavity it leaves a cavity of dense bone lined with granulations, which has practically no tendency to heal. These cases are seen in old and long-continued "bone abscesses."

*Soft Tissues.*—Beside these changes in the bone, secondary changes in the soft tissues appear early. Even before perforation of the periosteum appears the adjacent muscles, subcutaneous tissues and skin show edema, redness and induration. If the periosteum is perforated an abscess, often very extensive, may appear in the soft tissues. Such an abscess may spontaneously perforate the skin at several points, forming permanent sinuses. The edges of such a sinus are lined with unhealthy granulations. Such sinuses may be very large. In long-continued cases the skin and subcutaneous tissue are thickened from formation of dense scar tissue, while edema and infection persist. In extreme cases an affected limb may for years be nearly twice normal size.

## SYMPTOMS.

The disease usually begins with sudden local pain, usually quickly becoming severe, and generally of a throbbing character. This pain is usually referred to the shaft of some one of the long bones, commonly at one end near the epiphyseal line. The limb at this time often is not so sensitive on motion, but the pain is intense on percussing the bone, even very lightly, or on continued pressure. Usually at a very early period swelling of the soft parts about the bone appears, and this swelling soon shows pitting on pressure and marked redness. The adjacent joint frequently becomes tender, hot and swollen. This swelling at first more often is due to the edema of inflammation rather than to direct infection, for cultures of the joint fluid at this time often are sterile. Rise of temperature to 103 or 104 often accompanies the early pain, and frequently the pulse is greatly accelerated, 120 to 140 beats per minute. Evidence of constitutional disturbance and infectious absorption usually appears early. The tongue is dry, coated and tremulous. the face drawn and flushed. Delirium, often of a mild type, is a very common factor, and this delirium frequently persists for some weeks after drainage of the bone has been made. Abscess of the soft parts may give deep or superficial fluctuation. Sinuses may appear. The leucocyte count usually is very high.

Such a chain of symptoms would appear to present a fairly distinct clinical picture, and it would be difficult to overlook such a typical case. The diagnosis of early cases, however, quite contrary to some statements, may be very difficult. Even in severe cases, the pain for some days is not severe. Sometimes the patients complain of very moderate pain for several days before local symptoms are evident, and the pain at first frequently is referred to an adjacent joint in which no gross change can be made out. Sometimes swelling of an adjacent joint comes on so early as to call entire attention to the joint, and distract one's observation from the bone focus until later swelling and edema of soft parts, or abscess over the bone, give evidence of extreme bony destruction. These cases frequently for days are treated as articular rheumatism.

The infection may be so severe and the patient's mental condition so stupid that the pain is not noticed, so that the cases may be mistaken for typhoid fever; this, too, by very competent and well-trained men.

These difficulties, however, do not excuse many of the frequent failures to recognize the condition, which seem often to be due to a neglect to remember that osteomyelitis is a not uncommon disease in children and young adults.

## DIAGNOSIS.

The diseases most frequently mistaken for osteomyelitis are early acute tuberculosis of joints, acute articular rheumatism, gonorrheal rheumatism and typhoid fever.

Tuberculosis of the joints practically always begins in the epiphysis of the long bones, while osteomyelitis almost always begins in the diaphysis. This distinction will clear up the diagnosis in many cases. It is said that occasionally osteomyelitis begins in the diaphysis, although I never have seen such a case. In such a case the very acute onset, the early extreme pain and the early appearance of constitutional symptoms should permit of a diagnosis. Moreover, in epiphyseal osteomyelitis, spontaneous separation of the epiphysis is said to be common.

If a portion of the shaft is left at the time of the resection and the sound end is cut off square at right angles to the shaft, the same triangular dead space may persist, but in such a case if the end of the old shaft is tapered off by chisel and forceps, the bone may be so pointed as to allow complete approximation of the periosteum. Such an expedient can not, however, be safely adopted with the epiphysis and yet allow the preservation of the epiphyseal line.

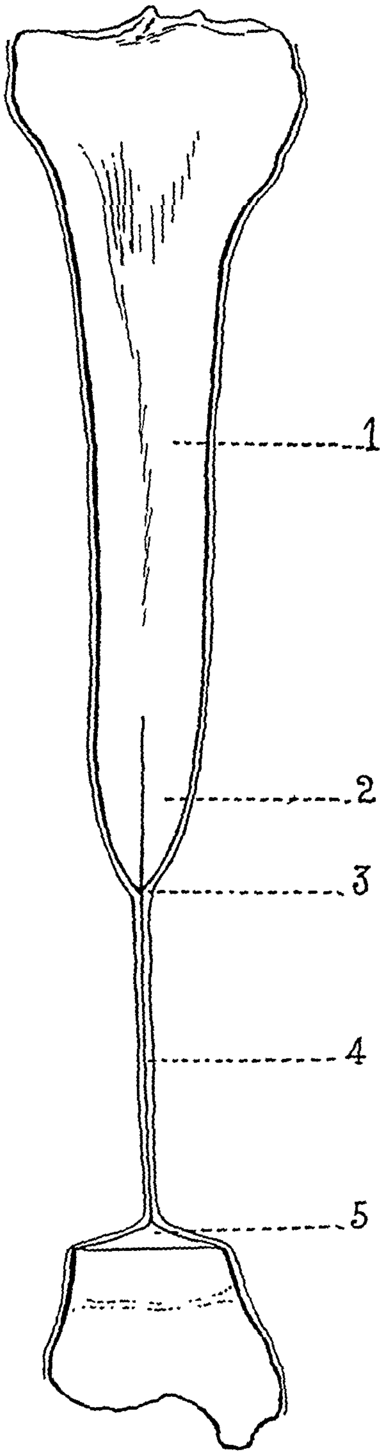

*Figure 9.—Diagram to illustrate method of avoiding dead space* in case of partial removal of e. g., shaft of tibia. 1. Upper portion of shaft of tibia. 2. Lower end of shaft chiseled into conical shape. 3. Close approximation of periosteum to conical end of shaft, obliterating upper dead space (See Fig. 8, No. 3). 4. Approximated periosteum, after removal of portion of shaft. 5. Dead space just about epiphysis, as epiphysis can not be made conical without interfering with epiphyseal line.

AFTER-TREATMENT.

Certain precautions and difficulties in the operation and after-treatment should be considered. Of course, some infection and suppuration will be present when the operation is done, but they should be minimized as far as possible. For this purpose free incisions, followed by careful daily dressing and irrigation, should be provided for some time before removal of the shaft when necessary. Often the reaction to the inflammatory process in the soft tissues and periosteum leads to the formation of an enormous amount of vascular granulation tissue in the soft parts about the bone. Incision of such parts may lead to a very great oozing hemorrhage during the operation, sufficient at times to make the operation dangerous from loss of blood. This may be avoided by the application of an Esmarch bandage before the operation and removal after the dressing. I have known of two cases where the hemorrhage was so severe as to require that the operation be done in two steps; at the first step periosteum was partly peeled back from the bone and the operation completed some days later after hemorrhage had ceased.

In regard to closing the wound, it is to be remembered that the operation practically never can be done on perfectly aseptic tissues. Some suppuration may take place between the approximated surfaces of periosteum, and some is sure to take place between the soft tissue edges. Consequently it is advisable to leave the stitches in the periosteum as far apart as is possible with accurate approximation of the edges. The edges of the soft tissue may be closely approximated, but provision for drainage should be made by very small gauze wicks or catgut drains.

The operation produces usually moderate depression, not so severe as an amputation. In spite of all precautions there is apt to be some evidence of septic absorption, coming usually on the second or third day, but usually disappearing within a week. In two cases the post-operative infection was sufficient to cause mild delirium for a week.

The wound may heal by first intention over the greater portion, but some redness and slight sloughing of the edges usually appear. In one case this sloughing was sufficient to cause considerable gaping both of soft tissue and periosteum. Sinuses often develop for a time, but have always ultimately disappeared. They usually appear near the epiphysis, or at the junction of periosteum and shaft. As has been said, sometimes a slight amount of curetting may be necessary before permanent closure takes place. It is desirable to prevent backing up of infection because of the danger of infection of the epiphysis and ultimate infection of the joint as happened in one case (Case 5, cf. infra).

The first dressing should be done usually by the third day; a wet dressing may be necessary for the first ten days. After that time, dressing should be done sufficiently often to absorb any discharge.

Marked induration along the line of the bone usually is felt by the third week. From that time on the bone gradually increases in density and size. The new shaft at first and for some months has no marrow canal, but is composed entirely of trabeculæ of periosteal bone with myxomatous granulation tissue, instead of fat marrow. The new shaft grows to be larger than the original shaft during the early months, but in time decreases in size and practically comes to the size of the corresponding shaft. In course of time a marrow canal appears in the new bone, to judge from the *x*-ray pictures. I never have had a chance to examine such bones at autopsy.

As a rule, the new shaft is a trifle more irregular than the original shaft. The shaft is strong enough to allow free use after from five to eight months. Even when the entire diaphysis has been removed, if the epiphyseal line has not been interfered with, no shortening of the limb need result, and that, too, in young adults of fourteen years. As far as function and use go, the results often are absolutely perfect. Even in cases where the epiphysis is interfered with, the shortening may be slight and the function perfect.

### OPERATIONS WHEN NO ACCESSORY SPLINT BONE IS PRESENT.

The above operation is particularly applicable to bones like the tibia and fibula, or the bones of the forearm. In cases where there is only one bone in a limb, e. g., the humerus, the danger of deformity from muscular contracture must be considerable if the necrotic shaft is removed before the periosteum is rigid. But, as has already been said, if the periosteal shell is allowed to become too rigid and dense, it has very little or no power of repair centrally. The triangular space, however, between epiphyseal line and approximated periosteum showed, in some of the operations on the tibia, some power of growth centrally, so it was believed that the periosteal shell, if the necrotic shaft were removed from the box of involucrum early enough, might have sufficient power of central growth to repair an extensive central defect. Naturally the time when such a power would be greatest would be when the shell was as young as possible, i. e., just as soon as the shell was sufficiently hard to bear weight or maintain the contour of the limb. This assumption has been found to be true. The difficulty of telling just when this time has arrived is considerable. The $x$-ray furnishes the best means of determination, and the relative apparent increase in the size of the shaft due to formation of involucrum tested by palpation also is of assistance. With sufficient fixation, new periosteal bone whose diameter is equal to one-half the diameter of normal shaft is sufficient.

### POINTS IN THE TECHNIC.

Hence in such cases the secondary operation must be undertaken at a somewhat later time than the secondary operation in cases where an accessory splint bone is present. In the two cases where there has been opportunity to try the operation, the time was judged to be sixteen weeks. The operation requires an incision through soft parts down to periosteal shell. Then with chisel and gouge a longitudinal opening must be made through the periosteal shell long enough to reach the lower end of the necrotic shaft, unless, from the early drainage operation, a gap has been left in the periosteum. If sufficient opening through the periosteum is made at the primary operation, but little will need to be done at the secondary operation. The opening must be approximately one-half an inch or more wide. Then the necrotic shaft must be grasped by bone forceps and by a rocking motion, without too much lateral force, be freed from the periosteal shell. Then it can be crushed by pressure of forceps, and withdrawn piecemeal through the opening. Separation of the fragment at the epiphyseal end, as a rule, should be easy. If the shaft is firmly adherent to the end of the original shaft, very careful chiseling may be necessary to free it. The cavity in the periosteal shell can be cleaned out with 95 per cent. carbolic, followed by alcohol. The skin incision should be closed by chromic gut sutures, except for a small opening for a small gauze drain. Fixation must be continued for some time until the bone has become sufficiently rigid not to be broken by muscular action or slight blows. Complete closure of such a cavity demands a longer time than usually is taken for regeneration of a tibia, apparently because power of growth of the vascular involucrum centrally is less than its power of peripheral growth.

This operation is essentially the removal of a sequestrum from an involucrum, but it is the removal of an adherent sequestrum at an early stage, from a young involucrum which can grow centrally, and not the removal of a movable sequestrum from an involucrum of dense bone which has no such power. The latter and older method leaves a bony box which does not repair the defect.

### TREATMENT OF THE CHRONIC STAGE.

In this stage there exists usually an old necrotic shaft, usually worm-eaten, perforated by sinuses, and often freely movable, enclosed by a shell of dense, periosteal bone like the cortex of normal bone. Moreover, the ends of the sequestrum often are separated from the epiphyseal line and from the sound portion of the diaphysis by a layer of very dense bone which has arisen from the endosteum, and has completely occluded the marrow canal. This endosteal plug also is composed of dense bone like cortical bone; that is, the sequestrum lies in a complete box of endosteal and periosteal bone which has no power of central growth. Removal of the sequestrum may give drainage, but the defect fails to heal. Such a cavity usually is lined with dirty granulation tissue from which a constant discharge takes place. If the granulations are removed, the wall is seen to be dense white bone. Such a cavity may persist for many years; in one case seen by the writer it persisted for forty years.

Ollier showed by experiment on animals that normal periosteum was capable of regenerating an excised shaft of normal bone. Case 2, mentioned below, shows that, in the human subject, the periosteum at times is capable of regenerating a shaft removed during the acute stage of osteomyelitis. It seems possible that advantage of this regenerative power of the periosteum might be taken in cases of chronic osteomyelitis with a box of dense periosteal and endosteal bone. In chronic cases outside of the periosteal involucrum is a layer of approximately normal, although usually somewhat thickened, periosteum, which can be stripped from the outer surface of the involucrum. If the sequestrum and involucrum together are then removed, the inner surface of the periosteum then can be folded and approximated as in the operation during the subacute stage, with an excellent prospect of regeneration. It is to be borne in mind that, in these cases, when the entire shaft is not involved the medullary canal for some distance above and below the sequestrum undoubtedly is occluded by dense endosteal bone, of limited power of growth. Consequently it will be essential to chisel through this sclerotic bone until fairly normal vascular bone marrow is reached, otherwise there is danger either of great delay in union, or of failure of the regenerated periosteum to join the sclerotic ends of the shaft. In the only case in which I have had an opportunity to try this operation, in a somewhat modified form (see Case 12), the regeneration of bone was sufficiently complete to give a useful leg, although, probably for special reasons, a small sinus still persists. I believe that the prospects of complete cures in such cases are good enough to justify other attempts at the operation.

### ILLUSTRATIVE CASES.

The following clinical cases are presented to illustrate the feasibility of the operation, the constant periosteal regeneration and the excellent results which can be obtained. Where the cases were not my own, the name of the surgeon who operated has been given. My thanks are due to my colleagues on the staff of the Boston City Hospital for permission to present such cases:

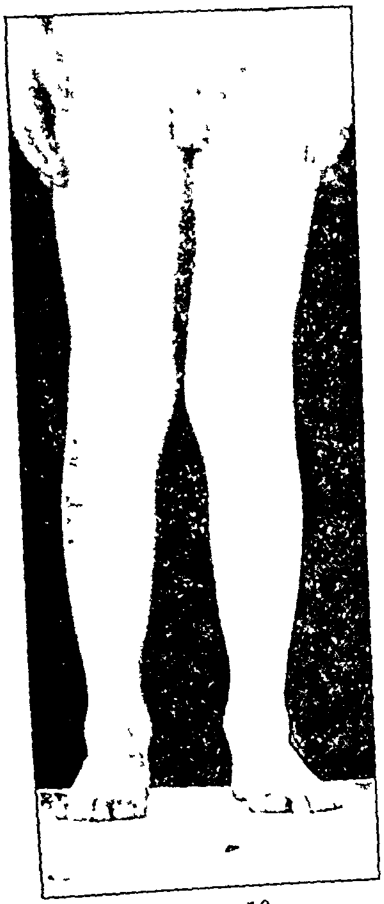
Figure 10.

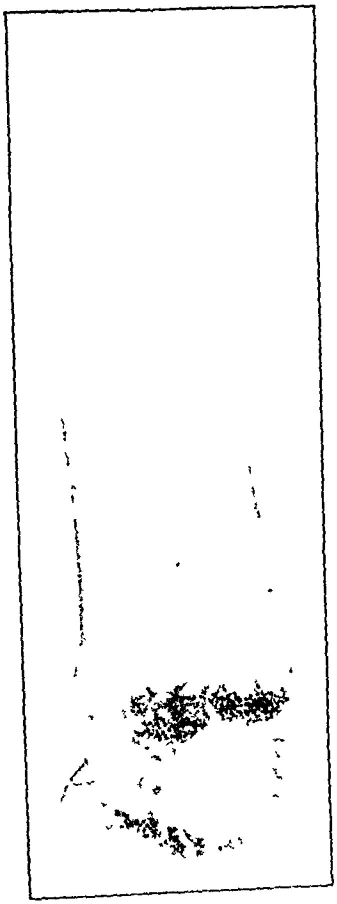
Figure 11.

Figure 10.—Case 1. Shows attitude, without atrophy or shortening. Scar of operation, inner side left thigh. Eight months after operation.

Figure 11.—Case 1. X-ray, left femur, side view. Slight change of density of bone, probably at upper limit of trephine hole in cortical bone. Eight months after operation.

Case 1.—W. J. D., boy, 4 years old. Case of Dr. J. C. Munro. Admitted to the hospital Aug. 5, 1902. Seventeen days before entrance fell while playing and bruised thigh. No known focus of infection. No symptoms for eleven days. Then sudden pain, soon followed by swelling of left thigh just above the knee joint. Pain and swelling increased, and some effusion appeared in the knee joint, which was flexed to within ten degrees of a right angle. Temperature 100.5, pulse 120.

*Operation.*—An incision three inches long was made on the anterior surface of the femur through skin and quadriceps muscle, with the lower end just above the upper limit of the capsule of the knee joint. The periosteum bulged, and when incised two or three ounces of thin yellowish pus escaped. The periosteum was stripped from the femur for a vertical distance of three inches, and apparently over the entire circumference. Shaft of femur was white and bare. Opening made through femoral cortex into medullary cavity gave vent to about one ounce of thin, oily pus. The opening was continued downward to the upper epiphyseal line of the femur, and extended upward to make an opening three quarters of an inch wide and three inches long. The medulla was not curetted or disturbed. Wound irrigated and closed about one-half by stitches at upper and lower ends. Wet dressing. Ham splint.

*Results.*—Immediate improvement in general condition. Local swelling rapidly subsided, and effusion into joint disappeared.

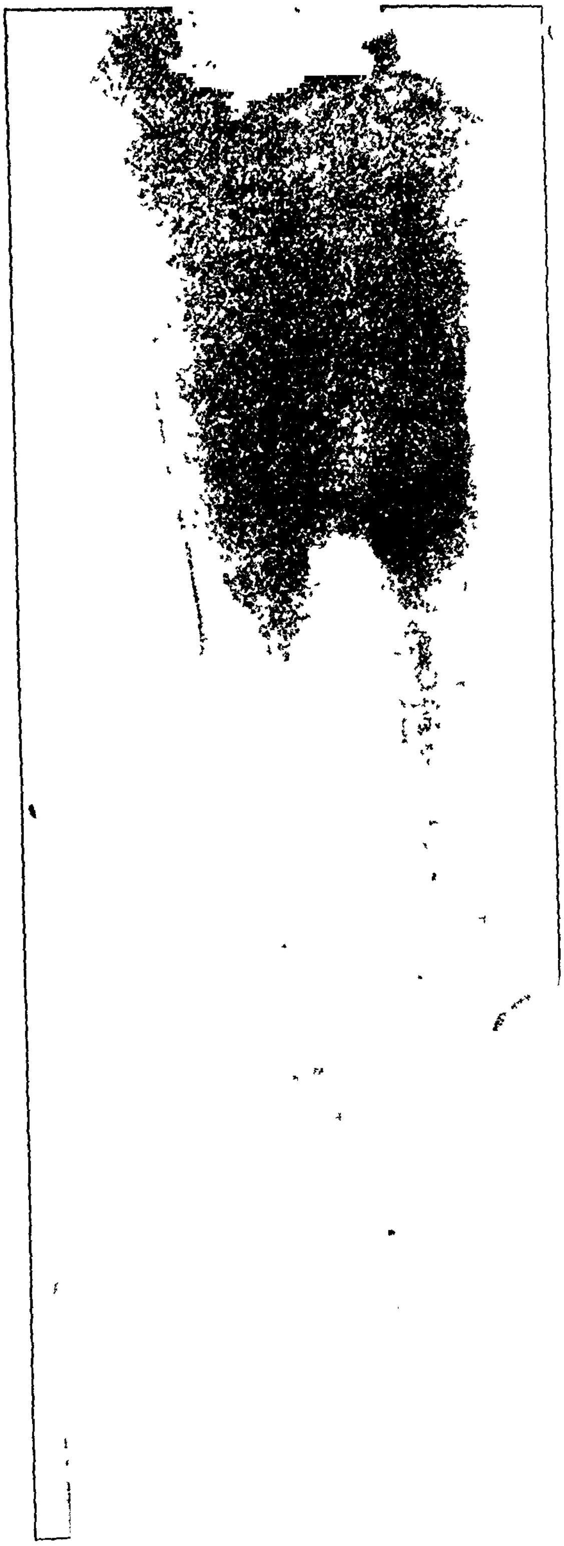
Figure 1
after opera
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Examined April 2, 1903. Well-developed child, walks and runs without any limp. Over anterior surface of thigh a rather broad linear scar, not adherent to bone underneath. No shortening or atrophy of left leg or thigh. No tenderness. On palpation no thickening of femur can be made out. Motions at knee joint normal. Child has had no symptoms for months.

This case shows that in cases seen sufficiently early, before destruction of the marrow is too advanced, removal of cortical bone alone, without disturbing the endosteum, will give sufficient drainage to the bone, and, in some cases, will allow complete restitution of the bone without formation of a sequestrum. It also shows that the effusion seen early in many of these cases is not due to infection of the knee joint, but is a manifestation of inflammation only.

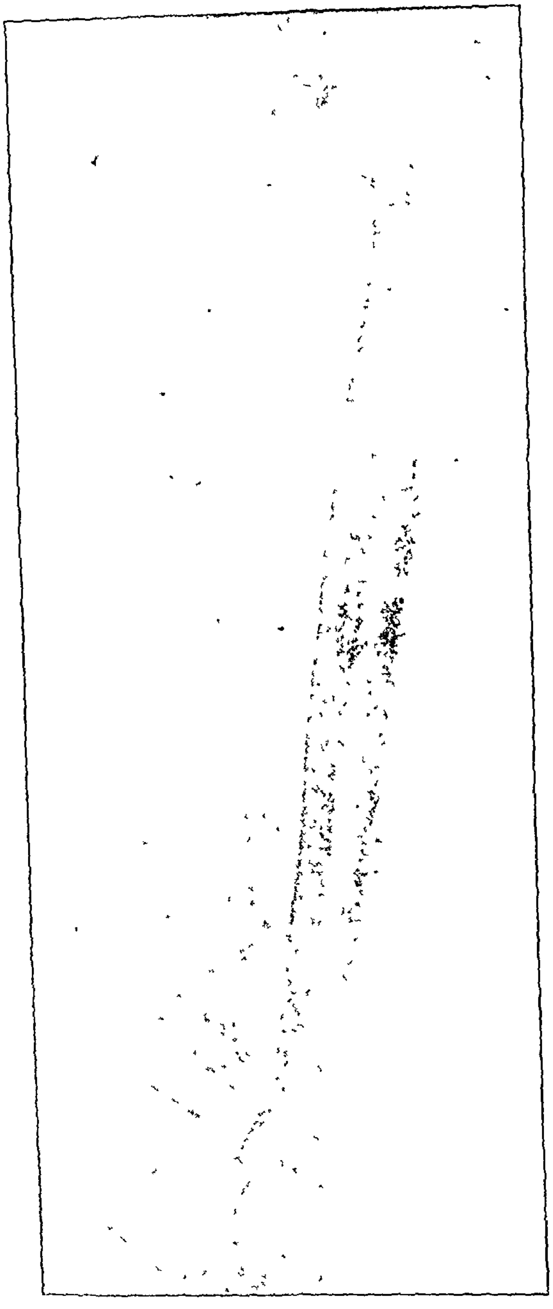

Figure 13.—Case 2. Left leg, *x* ray, side view. Eleven months after operation. Tibia regenerated except small portion of lower fourth. Antero-posterior bowing marked, probably because of difficulty of manipulating periosteum in acute stage.

Case 2.—A. S., boy, 4 years old. Case of Dr. F. B. Lun Admitted June 15, 1899. Three days previous to entran fell and bruised his left leg, without breaking the skin. Th next day the leg was swollen, tender and painful, and th patient had a chill. There was no known *focus of infection.*

At entrance the left leg was swollen from knee to ankl extremely painful, tender and edematous. Temperature 10

*Operation.*—June 16, an incision was made along the cres of the tibia from the tibial tubercle to just above the ankl joint. Hemorrhage was profuse. The periosteum bulged int the wound, and when incised gave vent to several ounces o thin yellow pus, and showed that the periosteum was almos entirely stripped from the tibia. The shaft of the tibia wa white and bare. The shaft was excised between the tibia tubercle above and the epiphyseal line below. The woun was partly closed by sutures, and a wet dressing and a pos terior wire splint applied. There was immediate improvemen in the general condition.

*Results.*—During the first few days there was considerabl discharge of pus, with some sloughing of the edges of th wound. The wound in a few days became a clean granulating trough, which closed from the bottom. The leg showed some tendency to outward bowing. On July 15, twenty-nine days after the operation, there was a fairly firm tibia from the tibial tubercle half way down the leg, and the wound was entirely healed with no sinuses. Two weeks later, forty-three days after operation, the upper three-quarters of the tibia was solid, while the lower quarter was elastic. August 13, two months after operation, the bone was solid except at the upper and lower ends. There was a small sinus at the lower end of the incision, at the junction with the epiphysis, and this sinus was dilated and two small fragments of necrotic bone were curetted out. On October 16 the patient was discharged wearing a plaster bandage. He had been about in plaster with crutches for some time. There was no sinus, and the new shaft was solid except at the junction with the lower epiphysis, where there was a slight elasticity. Every endeavor has since been made to find this patient, but without success.

This case shows the capacity of the periosteum to regenerate new bone nearly completely, even when the necrotic shaft is removed during the acute stage of the disease. The *x*-ray photograph, however, shows that the periosteum at this stage is not so easily managed in the large long bones, at least, as it is during the subacute stage.

Case 3.—P. R., Italian laborer, 20 years old. Admitted Oct. 17, 1902. Speaks no English and history of illness is imperfect. Five or six days previous to admission received a blow over the collar bone. Five days later pain and swelling over sterno-clavicular articulation. Swelling, pain and redness rapidly increased. Over right sterno-clavicular articulation a red, painful, fluctuating swelling about two inches in diameter. All motion of the arm painful.

*Operation.*—October 20. An incision about three inches long was made along the inner end of the clavicle, starting from the outer margin of the sternum. An abscess of the soft tissue was opened, which discharged about an ounce of thick yellow pus. The periosteum was stripped completely from its attachment to the inner two inches of the clavicle, was thickened, injected, but showed no bone in the deep layers. The cartilage of the proximal end of the clavicle was loosened. The inner end of the clavicle itself was soft, friable and contained pus. The sterno-clavicular articulation of the clavicle was freed, and the periosteum reflected from the inner two inches of the bone, and the bone was sawn across, removing the inner two inches. The abscess was curetted and made as clean as possible, and the periosteum of the clavicle was folded together and the edges approximated with catgut sutures. Wet dressing and Velpeau's bandage were applied.

Histologic examination showed acute osteomyelitis. Culture showed *Staphylococcus pyogenes aureus* in pure culture.

*Results.*—Eight days after the operation a superficial abscess developed under the right arm. Otherwise convalescence was uninterrupted and patient was discharged fourteen days after the operation with a small granulating surface over the middle of the incision and no sinus. The patient began to use his arm six weeks after the operation, and has worked as a laborer ever since Dec. 1, 1902.

Examination April 3, 1903, shows well-developed man with wide linear scar three inches long over inner end of the clavicle, beginning just inside the outer margin of the sternum. The clavicle appears normal except over one inch of inner extremity. There it is about half as thick again as normal, and is somewhat irregular in outline, not tender on pressure. Motion with the sternum is as free as on the unoperated side. All motions of the arm are normal. There is no pain on motion. Patient uses pick and shovel daily, and says he "can do everything but fight." Violent blow of fist, suddenly checked, causes a little pain at sterno-clavicular articulation.

This case is reported to illustrate the reparative power of the periosteum in the acute stage of osteomyelitis. In this case the difficulties in manipulating the periosteum were not so great as in the preceding case, chiefly from anatomic reasons.

Case 4.—J. W. D., male, 17, school boy. Four weeks previous to admission, without assignable cause, he was suddenly seized with intense pain about the right ankle. No known primary focus of infection. Swelling rapidly ensued and extended to the knee. There were repeated chills. An abscess opened spontaneously above outer side of right ankle after seven days, and one opened just below the knee three days later.

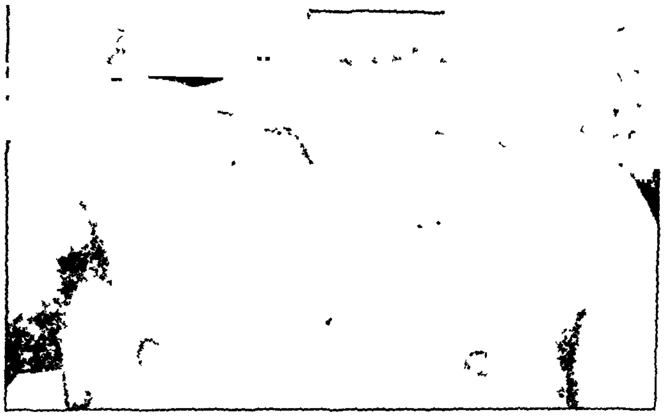

Figure 14.—Case 3. Six months after operation. Linear scar over inner end right clavicle.

Admitted Dec. 16, 1898. Patient showed signs of septic absorption. Right leg was swollen from ankle to knee, red, edematous and painful. There was a large sinus over the external malleolus, and a smaller one just below the tibial tubercle. Immediate operation was performed.

An incision was made four inches long over the lower sinus, and a similar one over the upper one, and two counter ones over the muscles of the leg. The tibia was bare, stripped of periosteum. Trephine hole into marrow through upper incision showed no pus, but "granulation tissue" marrow. Ankle joint apparently infected. Wet dressing and plaster.

Twelve days after the operation the foot showed a tendency to eversion. Immediate improvement in general condition followed the operation. Forty days after the operation an abscess appeared on the outer side of the leg from which pus was evacuated.

*Operation.*—Feb. 25, 1899, ten weeks after the primary operation, the secondary operation was performed by the writer. An incision was made over the crest of the tibia from the tibial tubercle to the lower epiphyseal line, and was carried down to necrotic bone. The periosteum everywhere was thickened, in some places being one-eighth of an inch thick, and everywhere showed in its deep layers new periosteal bone formation, crackling under the knife. The thickened periosteum was reflected from the tibia throughout the entire length of the shaft, except at the posterior tibial ridge, and various pus pockets were cleaned out with the curette. This was done to get rid of suppuration between the necrotic shaft and periosteum. The operation was checked at this point and a wet dressing and posterior splint applied, in order to give drainage and a chance for the extensive suppuration to diminish before removal of the shaft and closure of the periosteum.

Fourteen days later, the discharge and local infection having largely diminished, the periosteum was *entirely reflected* from the periosteum and the entire diaphysis of the tibia was removed, and the edges of the periosteum were approximated by catgut sutures. A wet dressing and a wire splint were applied. Daily dressing. There was some sloughing of the skin wound, especially over the lower third, with some eversion of edges. The upper two-thirds closed by first intention. There was *practically no pain after operation.*

*Results.*—Twenty-three days after removal of the shaft there was distinct bony induration along the line of the tibial shaft, which soon showed as a *cylindrical mass, and attained* a size apparently, to palpation, as large as the original shaft. This mass constantly grew more solid, and the patient was discharged June 21, 1899, a little less than four months after removal of the shaft. At that time there was no sinus or discharge, and the tibia was solid, although somewhat springy over the lower third. Induration, apparently bony, could be felt the whole length of the tibia. The patient wore a light plaster and used crutches. He was directed to return to the out-patient department at regular intervals. He came but two times, then began to walk on the leg. After some weeks an abscess appeared over the outer side of the ankle, which opened spontaneously, but gave practically no pain. This abscess apparently originated at or just above the point of union of the new shaft and the epiphysis. Considerable inflammation and induration of the soft parts about the ankle followed, and the foot flexed at the ankle joint. Since then

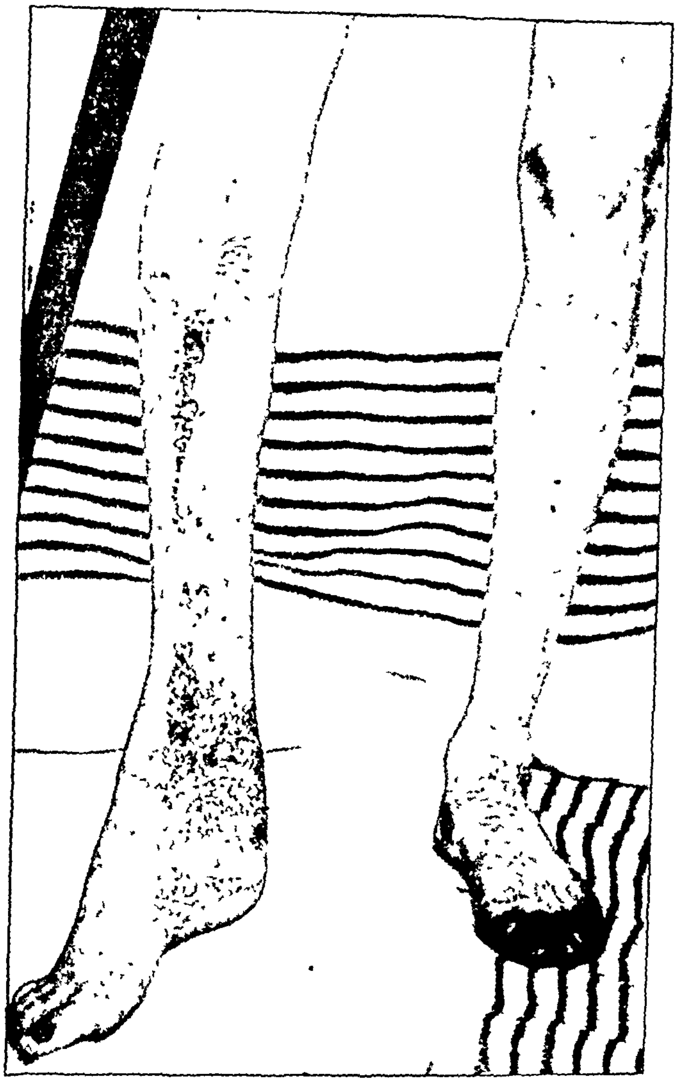

Figure 15—Case 4 Dark areas along scar of tibia and over ankle are not crusts, but are due to lack of cleanliness (*Notice toes of left foot*) Inside and behind internal malleolus is a small sinus.

the patient has walked on the leg, much of the time without any support, but at times with the aid of crutches.

At present there is considerable atrophy of the leg, with a quite rigid ankle, and foot flexed at the ankle joint and somewhat inverted. There are two sinuses, one at the outer side of the ankle joint and one over the internal malleolus. The tibial shaft is apparently complete throughout its length, and is firm and rigid, but feels considerably smaller than the normal tibia. The transverse diameter seems about the same as that of the other tibia, but the entire circumference is apparently less. This seems to have been due to some separation of the sutured edges of the periosteum.

The case is a functional failure, although the regeneration of the shaft was a partial success. The cause of the failure was apparently the development of a slight necrosis at the epiphyseal line and in the epiphysis, which, as has been said, is common. On discharge from the hospital, the result promised to be perfect, and the present state of affairs probably could have been avoided had after-treatment been followed up. The patient did not return because for a long time he suffered no pain, and because he has, even under present conditions, a fairly good functional leg. The *x*-ray shows that the diaphysis is much smaller than that of the normal leg. This may be due to a partial failure of the periosteum to regenerate, or may be due to the fact that the periosteum regenerates sufficient bone for function, as already mentioned.

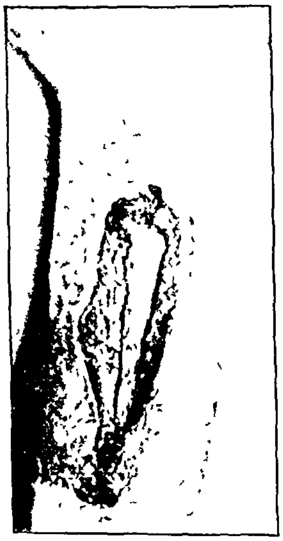

Figure 16.—Case 5. Left leg, two months after admission, one month before secondary operation.

Case 5.—D. A. (case of Dr. H. L. Burrell), 14 years old. School boy. Two weeks before entrance he bruised the calf of the left leg, without breaking the skin. After that time he had constantly increasing pain in leg, at first dull, later severe, and finally localized over the front of the leg, with onset of fever and stupor.

Admitted Oct. 21, 1899. Septic appearance and stupid. Temp. 101.8, pulse 120. Left knee and popliteal space red, hot, tender, edematous and swollen, and extending down over upper half of leg. Knee flexed almost to right ankle and swollen; patella floats.

*Operation.*—October 22. Multiple incisions about the knee and evacuation of a large amount of pus. Femur not involved. Incision over crest of tibia showed bone bare and periosteum elevated. Wet dressing. *Staphylococcus pyogenes aureus* present in pure culture.

*Results.*—Immediate general improvement. Profuse discharge of pus continued and shaft of tibia became brown and perforated.

Three months after this operation secondary operation was performed. An incision was made along the crest of the tibia from the tibial tubercle to two and one-half inches above the internal malleolus. Periosteum retracted and separated and entire diaphysis removed. The trough of slightly ossified periosteum molded into position and closed with interrupted sutures. Skin wound also closed and covered with silver foil. Sterile dressing, posterior wire splint. Tourniquet removed after the dressing. The first dressing was done on the tenth day. Upper and lower ends of incision healed by first intention with clean granulations over middle third. Thirty-seven days after the operation the leg showed formation of new shaft. One month later the leg was firm except for two small sinuses, one at junction of upper and one at junction of lower epiphysis with shaft. Parents refused to have sinuses curetted. On May 2, 1900, a little over three months after second operation, patient was discharged wearing a plaster, with crutches. The two sinuses still persisted, and there was slight mobility at the upper one.

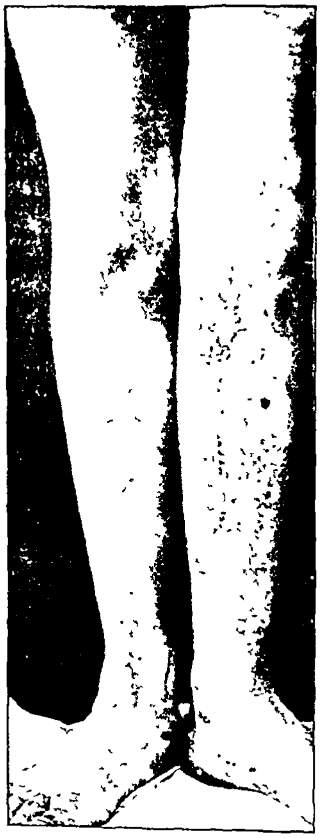

Figure 17.—Case 5. Three years after secondary operation. No shortening or atrophy. Linear scar over tibia.

The sinuses both closed in about four weeks, and the patient walked on the leg two months after leaving the hospital, and has done so ever since.

Examination in April, 1903, shows well-developed leg, no shortening or deformity or atrophy. A linear scar along the crest of the tibia. No sinus. No pain or subjective symptoms for two years. Tibia solid, of normal size, and by palpation is exactly like the sound one except for slight irregularity in contour. Perfect functional and cosmetic result.

This case shows practically perfect regeneration, after entire removal of diaphysis.

Case 6.—F. N., patient of Dr. G. H. Monks, boy of 14. School boy. Seven weeks before entrance seized with pain in left ankle, at first dull, soon becoming intense and throbbing. The next day swelling of leg. On the third day an incision into the soft parts over external malleolus and evacuation of pus. This gave some relief until six days before entrance, when there was an exacerbation of symptoms.

Admitted Sept. 15, 1898. The leg was swollen, with tenderness chiefly at lower end of fibula. An ulcer presented over the external malleolus. Fibula was bare over lower five inches and a profuse discharge of pus. Wet dressing and fixation to clean up the region for operation.

*Operation.*—One month later the secondary operation was done. An incision was made the whole length of the fibula. The entire diaphysis was removed. Wound was packed with gauze and a wet dressing applied.

*Results.*—Immediate improvement in general condition. The wound closed by granulation. Two weeks later two small sinuses persisted. Two months and ten days after secondary operation patient went out wearing a plaster. Boy walked on the leg about six weeks after leaving the hospital, and has done so since.

Examination in April, 1903, shows somewhat atrophied leg, with linear scar along entire fibula region. Fibula can be felt, apparently complete and firm. Perfect functional result.

Case 7.—H. S., 14 years old. School boy. Five days before admission spontaneous pain in right knee, very severe, so that he was unable to walk. Had chills and fever.

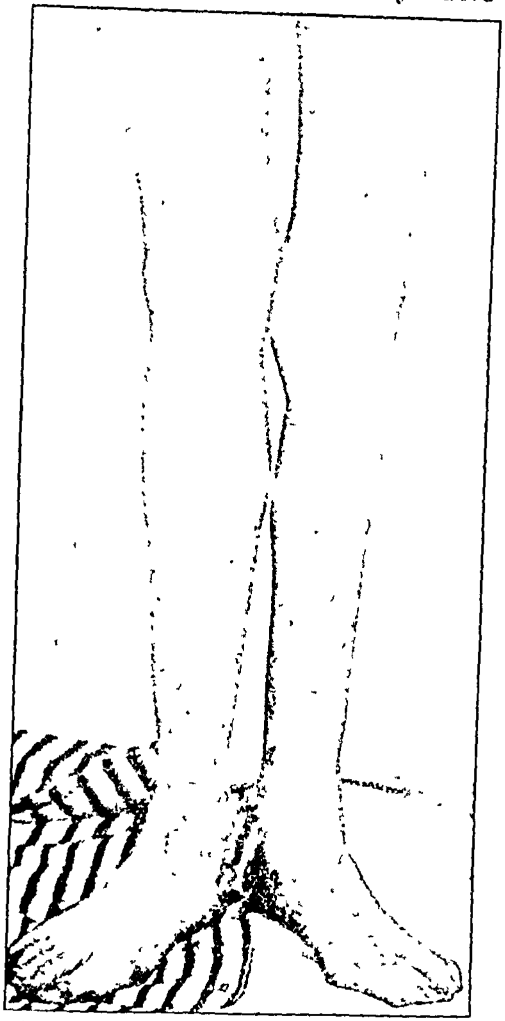

Figure 18.—Case 6. Removal entire diaphysis of left fibula. Four years after secondary operation. Considerable atrophy, about one-half of an inch shortening.

Admitted Sept. 14, 1900, for "typhoid fever." Stupor, mild delirium, leucocytes 8900, temp. 102.5. Three days later swelling of right leg from knee to ankle appeared and patient was transferred to the surgical ward. Leg swollen. Knee swollen and flexed. Cut six inches long over crest of tibia, beginning at tibial tubercle, evacuated much pus; periosteum bulging and tibia stripped. Trephine hole into tibia also evacuated pus from the bone. Opening enlarged downward three inches until no more pus escaped from the marrow. No attempt to close periosteal wound. Packed, wet dressing and plaster bandage. After operation, temp. 103, but normal on twelfth day. Wound closed by granulation, leaving bare bone at the bottom. Discharged November 13 with sinus, with direction to return for secondary operation.

*Operation.*—Feb. 7, 1901, he returned for the secondary operation. February 15 incision from tibial tubercle to junction of middle and lower third of leg. Upper third of tibia necrotic, periosteum thickened and crackling. Periosteum reflected from upper third of leg. Necrotic shaft removed from just below epiphyseal line to one inch below bottom of old trephine opening, until vascular marrow canal was reached. Upper end of lower fragment beveled off to allow approximation of lower fold of periosteum, but a triangular space had to be left between epiphyseal line and folded periosteum. Edges of periosteum united by interrupted chromic gut sutures. Skin wound closed with similar sutures. Dry dressing and plaster. First dressing in three days. Some sloughing of skin edges, approximated with adhesive plaster. Wound closed rapidly, mostly by first intention. Bony column first noted on eighteenth day. On twentieth day patient fell out of bed and struck the leg, and soon after an abscess developed on the outer side of the leg, connected with the triangular space just below the epiphysis, and a little necrotic bone was curetted out. Ten days later another fall, knee swelled, and patient began to have chills, and two months after secondary operation knee joint was opened and purulent fluid removed. Knee was drained by gauze wicks. From that time patient continued to improve, knee joint closed, and on Feb. 23, 1901, patient was discharged wearing a plaster, with firm tibia and a small sinus just below epiphysis. The sinus closed in about four weeks.

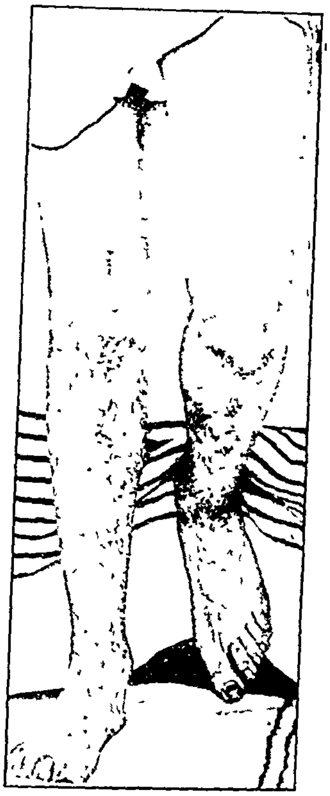

Figure 19.—Case 7. Removal upper third right tibia. Incision over knee joint and linear scar over upper half of tibia. Four years after operation.

*Results.*—The patient walked on the leg three months after leaving hospital, and has done so ever since, without any subjective symptoms.

Examination April 2, 1903, shows solid shaft of tibia without sinus, of practically normal size, possibly a little larger than the normal tibia and a little irregular in outline. No tenderness. Motions at knee joint perfect, except for a diminution of flexion by less than ten degrees. Scars of incision over tibia and into joint healed. Walks without limp. Perfect functional and cosmetic result.

This case shows the possibility of removal and regeneration of a necrotic portion of the shaft. It also illustrates the possibility of an infection of the knee joint by extension, and, furthermore, shows that the last place to heal usually is the interval just below the epiphyseal line.

Case 8.—R. L. T., female, 24 years old. Nurse. Twelve years previously sprained left ankle. Four years previously broke both bones of left leg, tibia just above the ankle and fibula at the middle. Six months after fracture had pain and swelling about left ankle and a small bit of bone was discharged through a spontaneous sinus. Sinus healed in two months. One year later another attack of pain, and a small spicule of dead bone removed by operation. From that time on had recurrent attacks of pain, often severe.

Admitted Oct. 24, 1900. Painful, tender swelling over lower third of left tibia with scar of old operation. Rest in bed and poultices. Radiograph showed no bone focus, and patient went out with pain relieved on November 1. She was comfortable for a few weeks, when pain recurred.

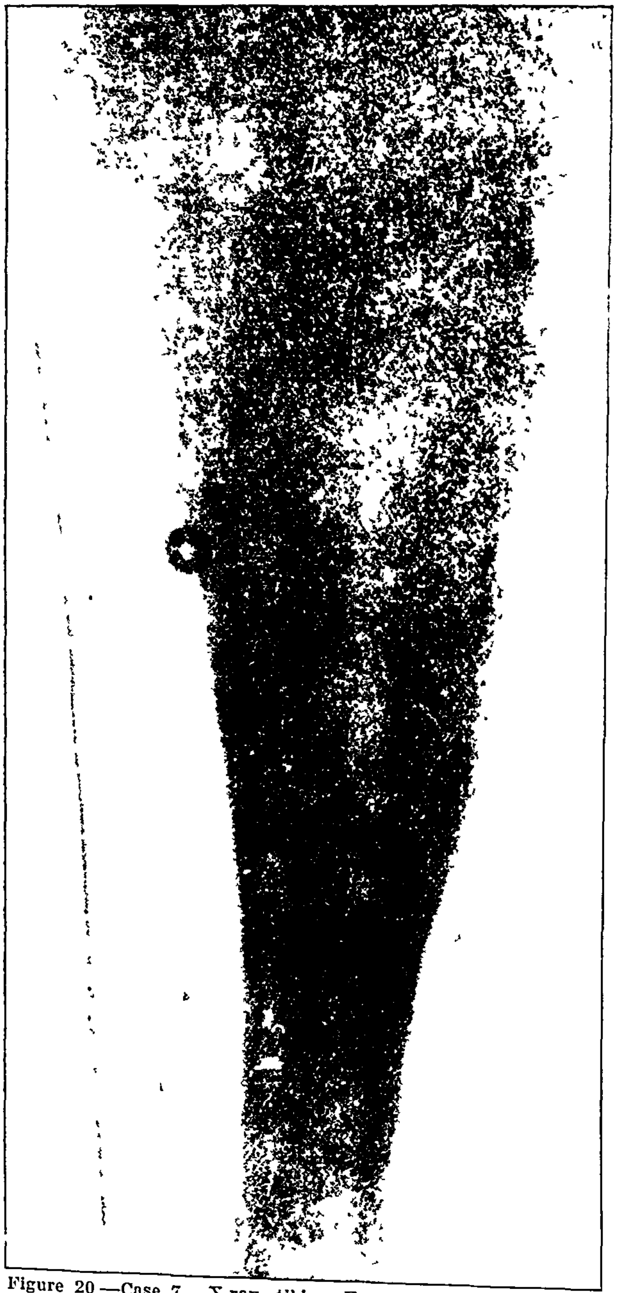

Figure 20.—Case 7. X ray, tibia. Four months after primary drainage operation. Front view. Marked thickening from formation of periosteal bone.

She was readmitted June 23, 1901, with tender tibia and limited ankle motion. June 26, 1901, an incision was made by the surgeon then on duty and a trephine hole made above and below the epiphyseal line. From the upper trephine hole a thin pus escaped, and the lower one opened into a thin-walled bony cavity filled with pus. The cavities were packed and a wet dressing and plaster bandage applied. The wounds in soft tissue closed by granulation, but the discharge from the sinuses was profuse and great swelling of the soft parts ensued. Amputation was considered

*Operation.*—July 23, 1901, the writer operated. There was a sinus leading into a cavity in the lower end of the diaphysis, filled with pus and granulations. There was a similar sinus and cavity in the shaft of the tibia about four inches above the epiphyseal line. The two cavities did not connect. The cortex of the tibia between the two trephine holes was white, stripped of periosteum and necrotic, forming a fixed adherent sequestrum. The posterior portion of the cortex of the lower four inches was closely adherent to the periosteum. The periosteum was thickened and showed moderate periosteal ossification. The shaft of the tibia was removed from the epiphyseal line to about an inch and a half above the upper sinus, except for a thin layer of cortical bone at the bottom. The marrow canal above the sinus was closed by rather dense scar bone, and the tibia was removed until the upper limits of this endosteal dense bone was reached, i. e., until vascular marrow was reached. A thin strip of cortical bone adherent to periosteum was left at the bottom of the cavity, because it

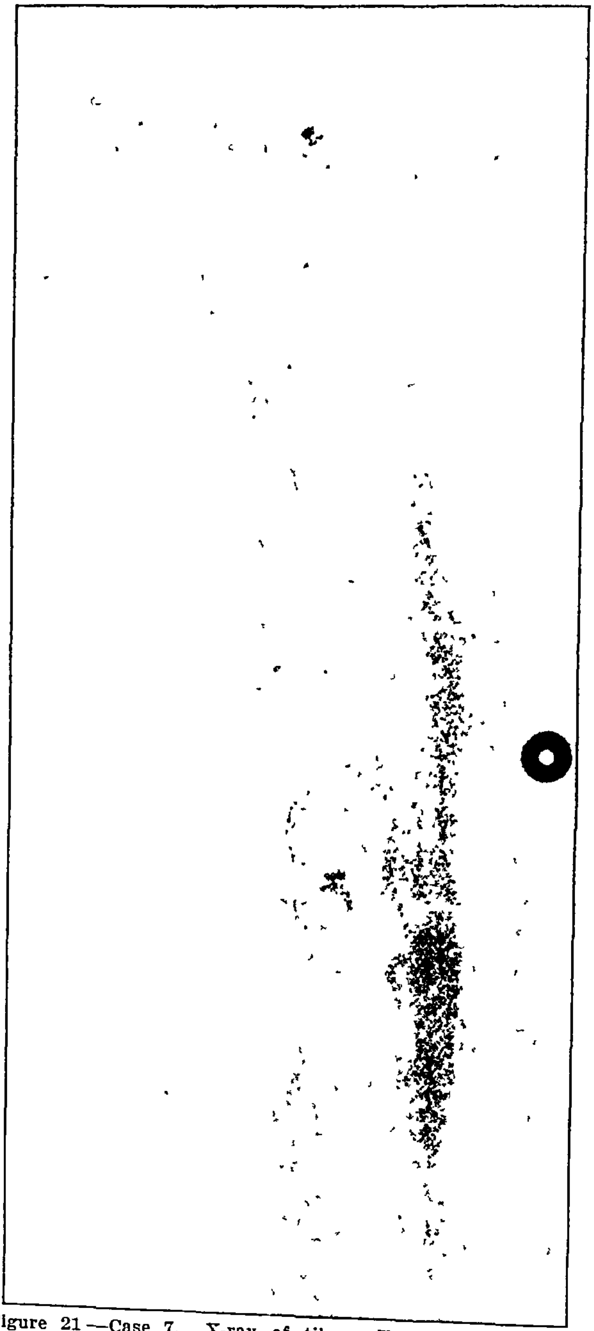

Figure 21.—Case 7. X-ray of tibia. Two months after secondary resection, upper portion of tibia. Side view. Regeneration of bone most marked posteriorly. Beveling of lower fragment is obvious.

was thought that this thin layer was viable on account of its attachment to the periosteum, and would serve to preserve the contour and length of the limb. This strip of periosteal bone was about one eighth of an inch thick and one-half an inch wide. (See Fig. 30.)

All soft infected tissue was carefully curetted and the cavity was sterilized by 95 per cent. carbolic acid, followed by alcohol. The lower end of the upper fragment was beveled off to allow as accurate as possible apposition of the periosteum. The thickened crackling periosteum was approximated by three chromic gut and one silver wire suture which passed about the cortical remnant and outside the periosteum. There was a triangular dead space unavoidably left just above the epiphyseal line, and, of course, a similar smaller space just above the strip of cortical bone. The defect in the soft tissues was closed by sliding a skin flap across laterally and fastening it by interrupted gut sutures. A wet dressing and a plaster were applied.

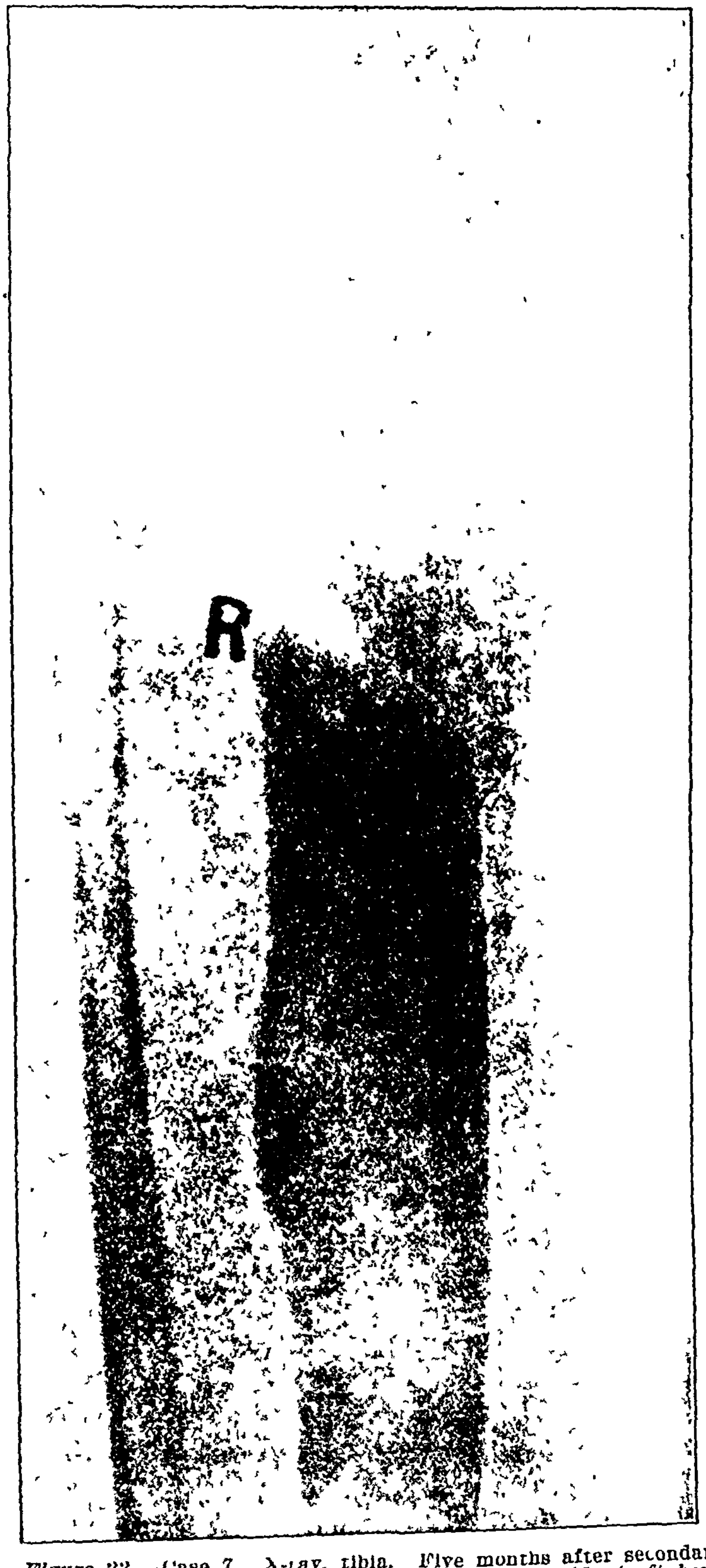

Figure 22.—Case 7. X-ray, tibia. Five months after secondary resection. Front view. Upper end of bone very wide (soft bone with overgrowth). Marrow canal not evident.

There was some sloughing of the edges of the wound, and after about two weeks a sinus developed just above the epiphyseal line. The upper part of the wound closed by first intention. Suppuration from the sinus was profuse for three weeks. Two months after the operation a cylinder of fairly solid bone could be felt completely filling up the defect. Sinus had closed almost to level of the skin, and patient left the hospital Sept. 26, 1901, two months after operation, with plaster bandage and crutches. The sinus closed promptly, and the leg was comfortable for about two months. Then several small abscesses developed over the silver suture, which finally was removed in December, 1901. In January, 1902, the leg was completely healed and the patient walked without support. With the beginning of warm weather small abscesses again appeared, and on standing or walking the leg was painful. In July, 1902, a sinus developed and the patient came to the hospital. July 10, 1902, the sinus was curetted and found to extend outside the periosteum to a bit of apparently bare bone on the outer surface of the new shaft. This bare bone probably was some fragment of the cortical strip left behind at the operation. The wound closed slowly by granulation, but the discharge and pain continued and the leg swelled.

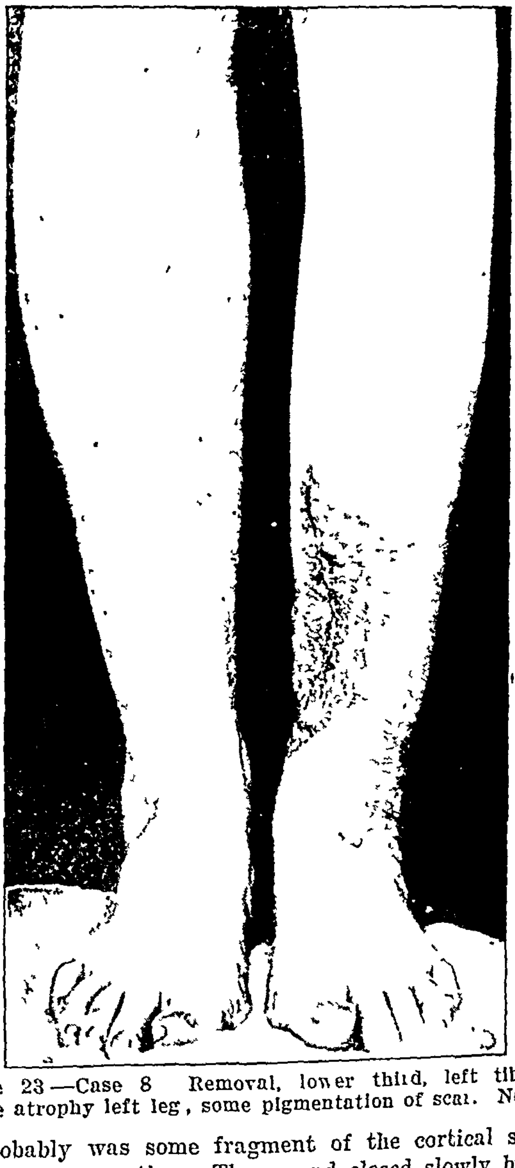

Figure 23.—Case 8. Removal, lower third, left tibia twice. Moderate atrophy left leg, some pigmentation of scar. No sinus.

Aug. 7, 1902, an incision five inches long was made along the old scar. The periosteum was one eighth of an inch thick. There was some suppuration of the surface of the newly-formed *diaphysis*. The periosteum was reflected. The new diaphysis was solid bone with no medullary canal. Fearing that there would be little power of repair of this dense bone, four inches, i. e., nearly all of the new solid diaphysis, were removed from just above the epiphyseal line up to vascular marrow. The periosteum was approximated by interrupted chromic gut sutures, and the wound of the soft tissues was closed. Wet dressing and plaster were applied. There was considerable pain for six days after the operation, referred to the external malleolus, the soft tissues over which were opened. Patient was mildly delirious for several days. There was almost no discharge from the wound in front of the tibia. Five days after the operation the patient was removed from the hospital, during my absence, against advice.

After leaving the hospital another abscess developed on the outside of the leg. This healed in three weeks. By Oct. 1, 1902, solid bone had appeared and sinuses were closed. In December patient walked with a cane. Since March, 1903, patient has walked without bandages or support.

*Results.*—Examination in April, 1903, showed patient walking without limp or pain. The leg is a trifle smaller than the sound one, and shows a little anteroposterior bowing in the lower third. The leg is one half inch short. The scar is completely healed; there has been no sinus for six months. Tibia is solid throughout, width is a little greater than that of the normal tibia, but diameter on the whole seems a little less. There is, however, marked posterior bowing of tibia at the site of the operation.

The case is of particular value. At the first resection of the tibia I think it was a mistake to leave the posterior shell of cortical bone, as probably the persistent formation of abscesses was due to a failure of all of that shell to retain its vitality. The regeneration of bone by the periosteum, however, was complete, and, in fact, more perfect than it was after the second resection. The second resection was done practically on an unossified periosteum, and the regeneration has been fairly successful. The suppuration which followed, however, apparently caused some gaping and separation of the infolded periosteum, and explains, I think, the backward bowing of the new diaphysis. The case also illustrates the undesirability of unabsorbable metal sutures. The functional result is at present perfect, and the cosmetic effect nearly so. The case emphasizes the extraordinary regenerative power of the periosteum at any stage of the disease.

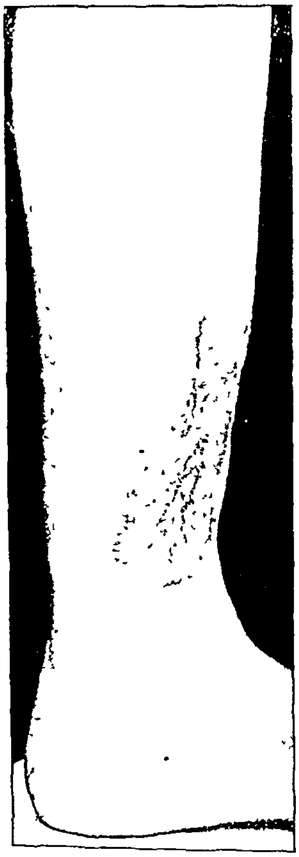
Figure 24.—Case 8 Removal, lower third, left tibia twice. Very slight antero posterior bowing of left leg in lower third.

Case 9.—J. P. R. School boy, 14 years old. Sixteen days before admission he bathed in very cold sea water. Three days later pain in left shoulder, soon becoming severe. Swelling appeared in a few days. Temperature became high and repeated chills. Admitted to the medical side as "articular rheumatism." Soon transferred to surgical. Temp. 103.4, pulse 124. Septic appearance and mental stupor. Left shoulder and upper arm much swollen, red, edematous and exceedingly tender and painful on motion or pressure.

May 12, 1900. Incision six inches long from tip of acromion to lower insertion of deltoid muscle. Subcutaneous tissue edematous. Deltoid fibers were separated and showed bulging periosteum. Incision of periosteum evacuated several ounces of greenish pus. A one-half inch trephine hole through the cortex, just below upper epiphyseal line, gave vent to several drams of pus. Trephine hole enlarged down to the deltoid insertion until pus no longer escaped. Marrow was dark red and gelatinous. Marrow was not curetted nor disturbed. The wound was packed open with iodoform gauze and a big wet dressing and Velpeau bandage applied. *Staphylococcus pyogenes aureus* was present in pure culture. Immediate im-

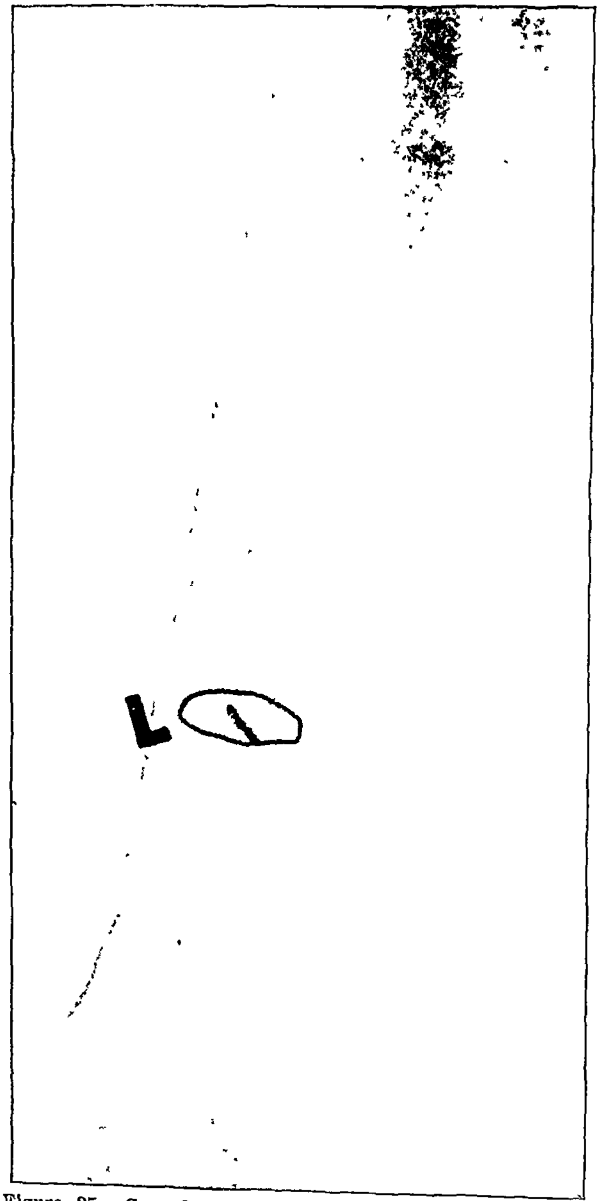

Figure 25.—Case 8. X-ray. Removal, lower third, left tibia twice. Six weeks after first removal of lower third of tibia. Shows tapering of upper end of tibia, silver wire suture and deep layer of cortical bone

provement in general condition. Wound closed by granulation, but a sinus leading down to bare bone persisted. The patient was discharged two weeks after the operation, to come in later for secondary operation when periosteum had sufficiently thickened to maintain contour of limb.

Patient returned eighteen weeks after discharge, i. e., twenty weeks after the primary operation. Sinus meanwhile had been carefully kept open to allow of very free drainage. There was no limit to passive motion nor any pain. X-ray photograph showed much periosteal thickening outside the necrotic shaft.

*Operation.*—Sept 28, 1900. An incision five inches long made through the old scar and sinus, beginning one inch below the tip of the acromion The granulations of the sinus were curetted and the edges excised. The necrotic old shaft was lying in a cylindrical cavity of periosteal bone about one half inch thick. The shaft was free at the upper end, but firmly attached below. The necrotic shaft was removed in two pieces with chisel and gouge and forceps, through the opening in the periosteal shell left over the old trephine holes, and was about three and a half inches long. The cavity had walls of vascular young periosteal bone. The cavity was packed with iodoform gauze. The shell was sufficiently rigid to maintain the contour of the limb.

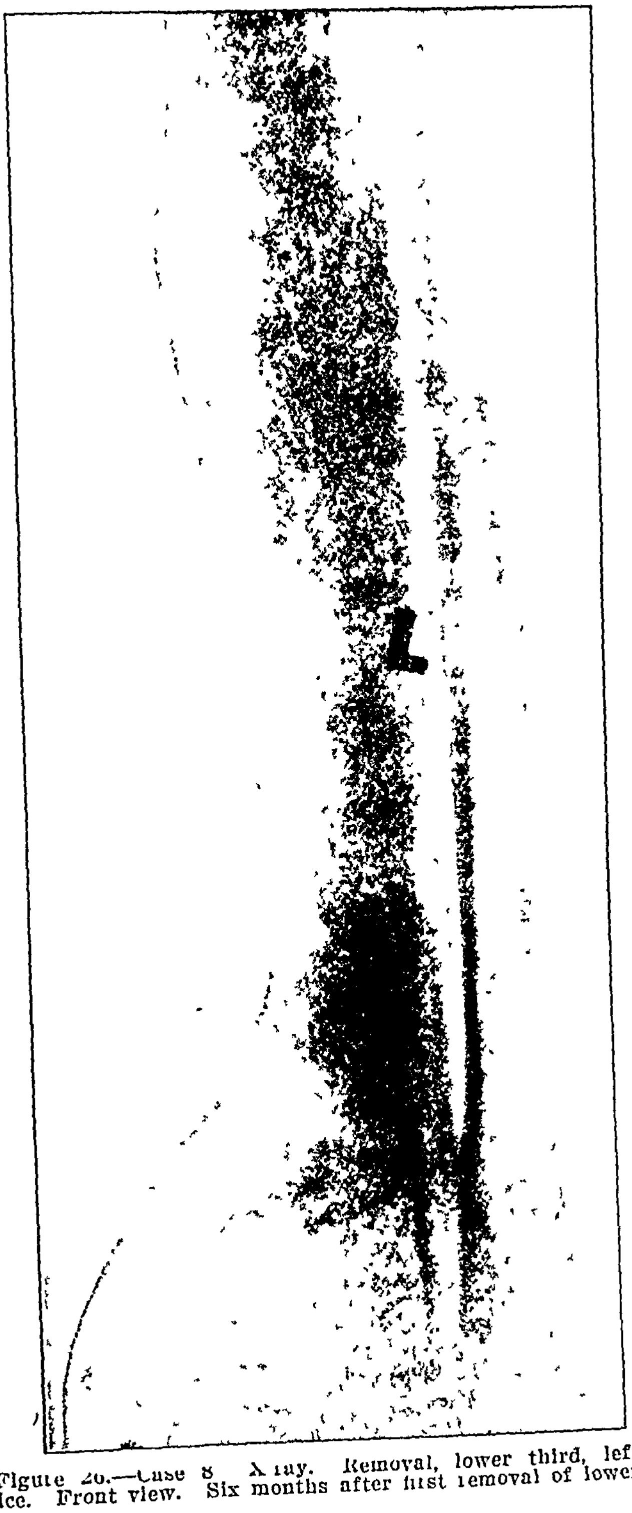

Figure 26.—Case 8 X ray. Removal, lower third, left tibia twice. Front view. Six months after first removal of lower third of tibia

The cavity closed rapidly from the first and by the end of two weeks was healed nearly to level of skin and no bare bone could be felt. Seventeen days after the operation the patient was discharged with a granulating wound, wearing an internal angular splint.

Three weeks later a small sinus developed at the bottom of the scar, and a small bit of bone was discharged Ten weeks later a similar sinus occurred with discharge of a small bit of necrotic bone. The sinus did not completely heal for six months after the operation

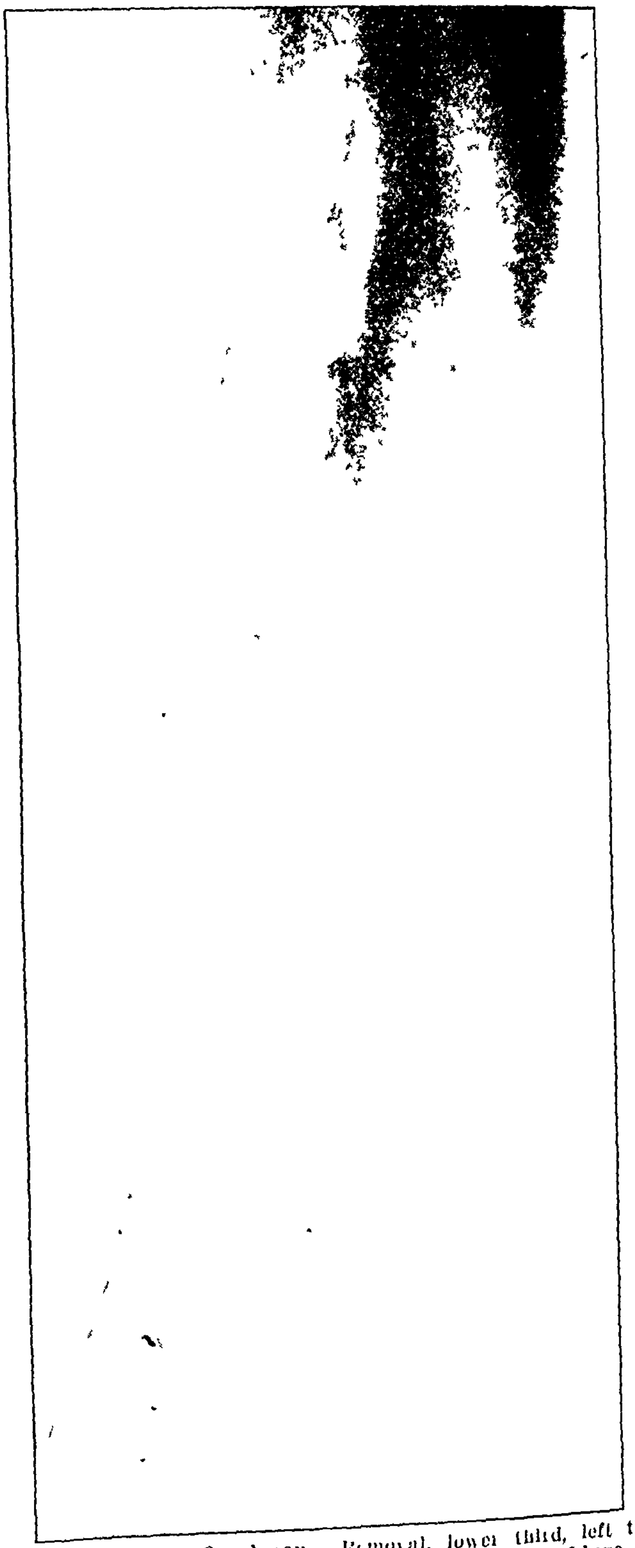

Figure 27—Case 8 X ray Removal, lower third, left tibia twice Lateral view Nine months after first removal of bone

*Results.*—Examination in March, 1903 Arm has been completely healed for over a year. Wide linear incision extends from tip of acromion to the insertion of the deltoid, largely due to a separation of the deltoid fibers by the scar. The humerus is solid throughout, of apparently normal size, but a little more irregular than the normal humerus Passive motion at the shoulder is unlimited. Voluntary motion is perfect except in elevation of arm from the side, due apparently not to loss of muscular power, but to separation of deltoid fibers Functional and cosmetic effect nearly perfect.

The case illustrates the power of central growth of the earliest stage of the periosteal shell, in marked contrast to the lack of such power that is seen in old involucra, after conversion into ivory bone.

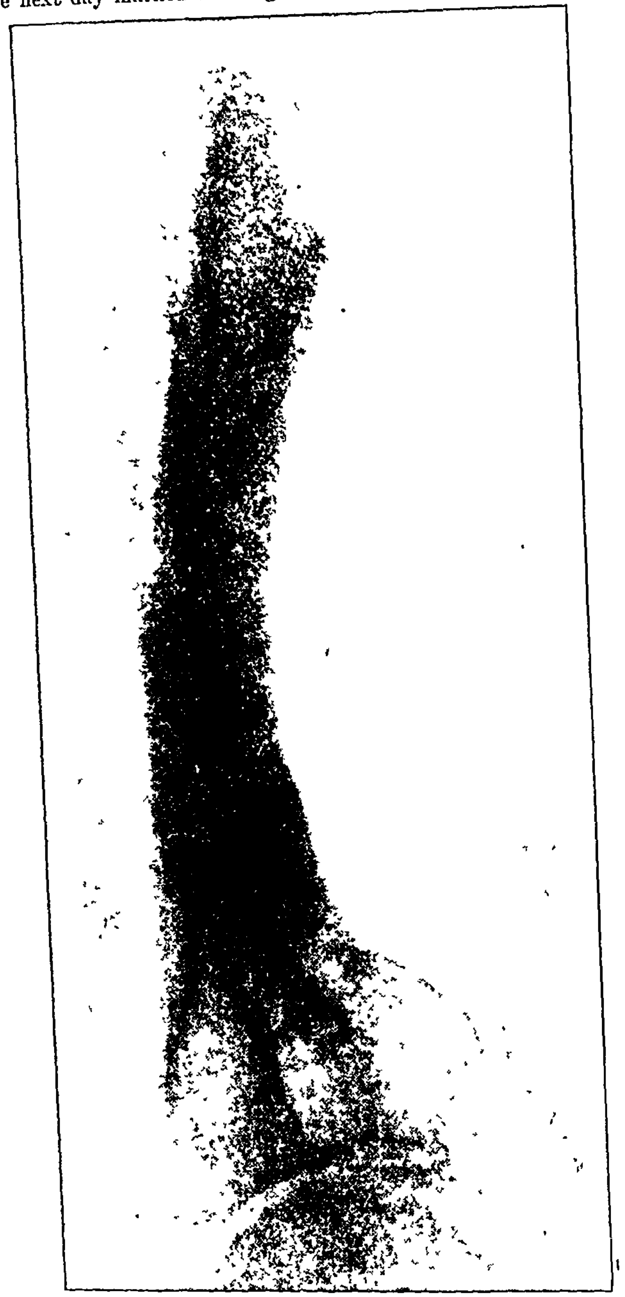

Figure 28.—Case 8 X-ray. Removal, lower third, left tibia twice. Lateral view. Nine months after second resection

Case 10.—G. Z., 18 years old. Brass finisher. One week before admission a pimple appeared on chin, below the tip. The next day marked swelling of face. Admitted Oct. 8, 1900. Much swelling of left side of face and chin, with edema, swelling, redness and pain. No swelling in mouth and all teeth sound or filled on affected side. An incision of soft parts was made, evacuating about an ounce of pus. The edema and pain continued to increase, and a few days afterwards a second incision was made along the lower edge of the ramus of the jaw and a small piece of the internal shell of the ramus was removed. The boy was discharged eight days later with a discharging sinus leading down to necrotic alveolus, and urged to return for observation. After leaving the hospital all of the teeth except the last molar on that side became loose and came out, and a considerable piece of the alveolar process was removed through the mouth. The bone of the jaw of the left side rapidly increased to double normal size from formation of periosteal shell. Dead bone could be felt through sinus in mouth and through external sinus.

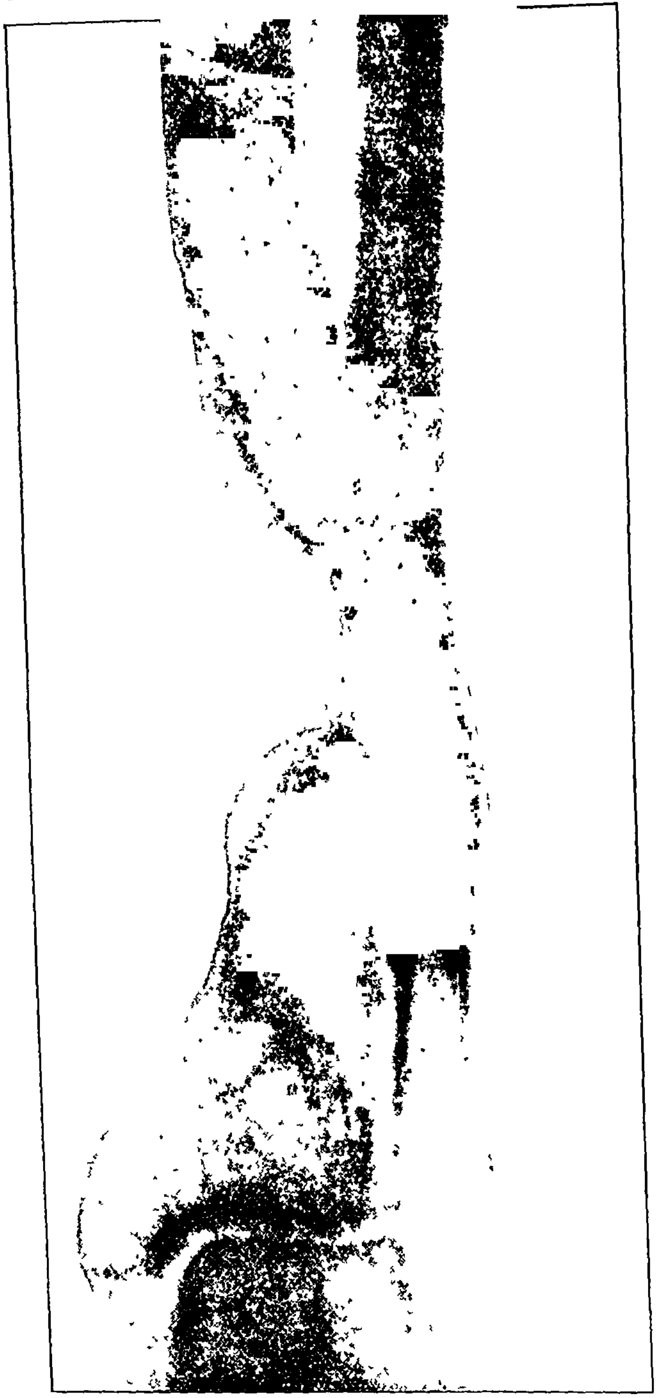

Figure 29.—Case 8. X-ray. Removal, lower third, left tibia twice. Front view. Nine months after second resection.

March 13, twenty weeks after primary operation, patient was readmitted. Jaw of left side nearly double normal size and causes marked deformity. The sinus below the left ramus persists. The thickening is almost entirely bony thickening, with but little edema of the soft parts. The jaw was at that time considered to be rigid enough to allow removal of necrotic ramus, and yet young enough to allow of probable central growth.

*Operation*—An incision made from in front of the angle to nearly the tip. Periosteum was thickened to about one-quarter of an inch and quite rigid. A trephine hole, half an inch in diameter, was made near the tip of the jaw through the periosteal bone, and the opening was enlarged backward. Beneath the shell was necrotic ramus, surrounded by pus, and this was removed in one piece about two inches long, beside some smaller fragments. The cavity was curetted to remove all fragments of dead bone, and the cavity was closed except for a small wick in front. The wound closed by first intention except for the wick. The patient was discharged eight days later.

*Results.*—A month later a small abscess formed near the angle of the jaw, which apparently did not connect with dead bone, for it healed promptly after incision. The sinuses closed in about three months, and ten months after the operation the jaw was markedly reduced in size.

Examination April 15, 1903, shows the outline of the face nearly normal, as bony thickening of jaw has quite disappeared. Linear incisions along lower edge of ramus. Last molar on that side remains. All other teeth gone in lower jaw to first molar on opposite side. Ramus of normal thickness laterally, but not so thick vertically as normal, apparently because alveolar process did not regenerate. No sinus for a year and a half.

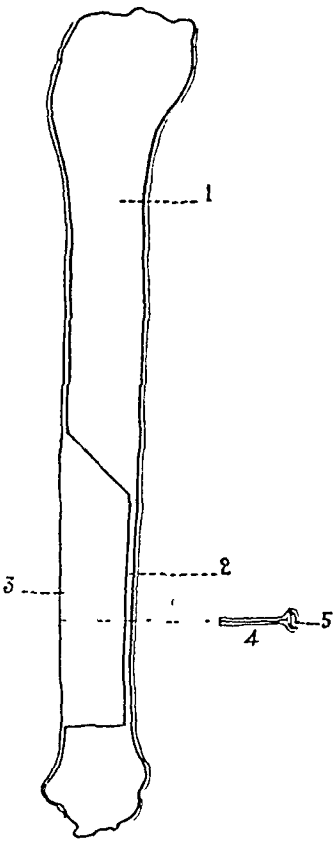

Figure 30.—Diagram to illustrate amount of bone removed in Case 8. 1. Upper portion of normal diaphysis. 2. Layer of cortical bone not removed at first resection. 3. Upper level of infolded periosteum. 4. Transverse section through infolded periosteum and posterior strip of cortical bone. 5. Posterior strip of cortical bone.

This case, like the preceding, shows the power of central growth of the early periosteal shell.

Case 11.—C. C., Italian, housewife, 24 years old. Speaks no English and history is imperfect. When 14 years old bruised the leg. Shortly after the leg swelled, patient was very sick, and an abscess formed, which broke and discharged pus and dead bone ever since at intervals.

Admitted Oct. 22, 1900. At the upper end of right tibia marked swelling and tenderness. Scar of previous injury. Very painful. Joint motions normal.

*Operation.*—Oct. 24, 1900, an incision was made over crest of tibia, opening an abscess of considerable size in the soft parts. Bone was covered with thickened periosteum, 1/16 inch thick. Periosteum was retracted and tibia of nearly double normal size, very dense and hard, exposed. A trephine hole through a cortex of more than double normal thickness opened a pus cavity, containing about half an ounce of yellow pus. The marrow canal was practically occluded above and below this cavity by dense endosteal bone. With chisel and gouge the cavity was enlarged upward and downward until vascular marrow was reached. The cavity was cleaned out with 95 per cent. carbolic acid, followed by alcohol. All of the abscess wall also was curetted and carefully removed The cavity was filled with blood clot according to Schede's method The clot broke down and disintegrated and left the cavity lined with pale, unhealthy granulations.

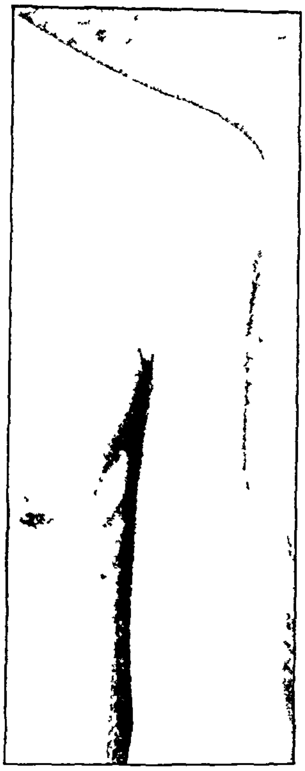

Figure 31.—Case 9 Removal upper half diaphysis, left humerus Three years after operation

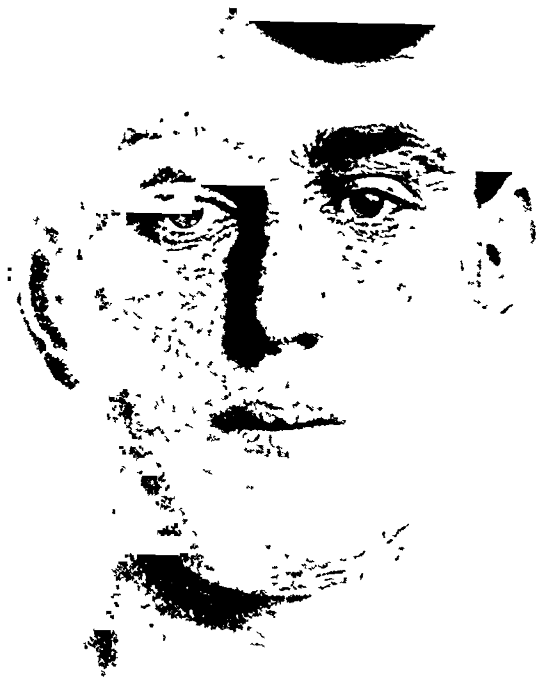

Figure 32.—Case 10 Front view. Thirty months after removal of two and one-half inches of ramus of left lower jaw. Contour of face has returned nearly to normal.

Nov. 28, 1900, an attempt was made to utilize the regenerating power of the periosteum to obliterate the bony defect

An incision six inches long was made along the crest of the tibia, including the sinus. The periosteum was reflected and the dense tibia removed for a length of about four inches, except for a thin layer of cortical bone, attached to the periosteum, at the back of the tibia, as in Case 9. The tibia was practically all ivory bone and no definite marrow canal was seen, but the cavity was enlarged in both directions until the dense bone became more vascular. The periosteum then was approximated and sutured, although a triangular dead space had to be left at the junction with each portion of the shaft. The skin also was sutured and pressed firmly on the bone. A large plaster bandage was applied.

*Results.*—There was some sloughing of the edges of the wound at the middle of the incision, but upper and lower portions healed by first intention. Bony thickening was evident at the end of forty days, although a small sinus persisted. The patient was discharged wearing a plaster three months after the operation with a rather soft tibia of about one-half normal size, and a small sinus, in which dead bone could not be felt. The patient walked on the leg four and one-half months after the operation, and has done so ever since.

Examination April 2, 1903. Patient walks without limp. Leg is considerably smaller than normal leg. There is a marked concavity of the leg, beginning just above the tibial tubercle and extending down to the middle. The tibia is firm, not tender, a little wider than the normal tibia, but of about one-third less diameter. There is a slight vertical trough in the front surface of the bone, in the middle of the incision. It has not been possible to get the patient to come for an *x*-ray picture.

The case is not a complete success. The regeneration of the tibia has been sufficient to give a satisfactory functional result, but the persistence of the sinus is disappointing. I suspect that the cause is the cortical strip that was not removed.

The cases above presented are not selected cases, except Cases 1, 2, 5 and 6. Those cases were operated on bv other surgeons, and by their permission have been presented here because they illustrated some special feature of the process of bone regeneration. The cases do include all of my own cases of disease of the large bones operated on by the method previously recommended, in which sufficient time has elapsed to determine the result of operation, except one case of resection of the inner half of the clavicle for tubercular disease. In that case there was complete regeneration of the removed portion of the clavicle, with a satisfactory sternoclavicular articulation. I have also in a few cases operated on small bones, e. g., phalanges, by this method, and succeeded in obtaining complete healing and regeneration. There has been a considerable number of cases operated on by this method by other surgeons at the Boston City Hospital, with exceedingly satisfactory results.

### CONCLUSIONS.

A careful study of the cases here reported will show that the following statements in regard to the treatment of osteomyelitis are justified:

1. In the acute stage of osteomyelitis, drainage of abscess in the soft parts alone is not sufficient. The bone marrow is infected, and must be drained. Removal of a sufficient amount of cortical bone alone is all that is required to give perfect drainage to the bone marrow. Curettage and disturbance of the marrow cause extensive destruction of the endosteum, which, if left alone, has in a limited number of cases operated on early, sufficient power of regeneration to repair the bony defect without the formation of a sequestrum. Under those circumstances a very early operation on the cases is necessary.

2. In the subacute stage it is desirable to remove the necrotic shaft, completely or partially, at an early stage in order to take advantage of the power of regeneration of the periosteum. The periosteum either before or after the beginning of periosteal ossification has the power of regenerating a completely or partially removed shaft of bone.

3. For mechanical reasons the manipulation of the periosteum is easier after ossification of the periosteum has begun, but while the membrane still is plastic. Moreover, the rapidity and surety of perfect regeneration seem greater at that time.

4. The operation consists of an incision through skin and ossified periosteum down to necrotic shaft, reflection of the periosteum, removal of the shaft, either entire or partial, folding of the plastic periosteum in such a way as to approximate the internal layers, suture of the edges by absorbable sutures, suture of the soft tissues, with, in both cases, provision for moderate drainage and complete immobilization.

5. The success of the operation is naturally greater when asepsis is provided for by careful drainage preceding the operation and by careful removal of all infected material and tissues at the time of operation.

6. After removal of the necrotic shaft well-marked ossification of the new periosteal shaft appears between the twentieth and fortieth days, and the shaft is solid enough for use in locomotion in from four to eight months. If the epiphyseal line is extensively destroyed, considerable shortening of the limb may result.

7. The regenerating bone at first becomes much larger than the original shaft was and is entirely composed of solid periosteal bone, with no marrow canal. This enlargement probably is due to the fact that the bone is less completely calcified than it is later. In time the size of the bone decreases almost or quite to that of the original shaft, and, finally, judging from *x*-ray photographs, a marrow canal is formed. This fact suggests that the size of bones may be due to two factors, heredity and environment, and that the ultimate size of the bone, therefore, is due to the function required of it.

8. The chief difficulty in completing the restoration of the shaft is to obtain complete union of the regenerated shaft to the epiphyseal line or to the portion of the normal shaft that remains. Slight necrosis and suppuration may persist at this point after the repair otherwise is complete, and may demand minor operations to remove small fragments of necrotic bone. Union at these points may be delayed, but ultimately always has taken place.

9. The best time for the operation ordinarily is about two months after complete drainage of the acute infection.

10. This operation is the operation of preference, and is especially applicable when an accessory bone which can act as a splint is present.

11. The anatomic, functional and cosmetic results obtained by this operation are much superior to those obtained in any other way in cases of large bony defects due to acute infection of bone.

12. Where no accessory splint bone is present *it may be impossible, in special cases, to maintain the contour* of the affected bone by the above-mentioned method. In such cases advantage can be taken of the power of central growth possessed by the shell of periosteal bone in its *early* stages. This means that the necrotic bone must be removed just as soon as the periosteal shell is sufficiently advanced and solid to maintain contour and bear the weight of the limb. Roughly, this stage is reached when the thickness of the periosteal shell is equal to one-quarter of the diameter of the original shaft.

13. The time when this condition exists can be determined by *x*-ray examination and by palpation.

14. If the necrotic shaft is removed at this time it leaves a solid cylinder of periosteal bone, very vascular, but partly calcified, analogous to the bone seen in an early external callus, and this shell has sufficient power of central growth to fill up large cavities. The rate of central growth seems to be markedly slower than that of peripheral growth. Persistence of sinuses is longer than in the preceding method, partly from a delay of closure of the cavity, and possibly from a failure to remove small fragments of necrotic bone at the time of operation.

15. This method of operating leaves at first bone very much larger than the original bone, but, as in the preceding case, ultimately the bone diminishes in size and slowly approximates that of the original bone.

16. In the chronic cases more or less sequestrum surrounded by an enormously thick shell of dense cortical, more or less ivory-like bone, exists.

17. The power of repair of dense cortical bone is very slight or practically wanting. Removal of sequestra leaves a more or less extensive cavity in bone, surrounded by a wall of dense bone, lined with unhealthy granulations, which has no tendency to close.

18. The most satisfactory methods ordinarily recommended for the closure of such defects are the aseptic blood clot, or obliteration of the cavity and approximation of skin flaps. The aseptic blood clot aims to fill the defect with dense scar tissue, but does not lead to regeneration of bone, and requires for its success greater asepsis than ordinarily can be obtained in extensive osteomyelitis. The skin flap method may close the cavity, but does so at the expense of great bony destruction.

19. From one semi-successful case, from a consideration of the general process of regeneration of bone by the periosteum, and the successful results obtained in the subacute cases, it seems likely that better results can be obtained by removal of both sequestrum and involucrum and the use of the regenerative power of the periosteum.

20. In removing a portion of a shaft under such circumstances, the excision should be carried sufficiently far into the normal shaft to get above a medullary canal, occluded by dense, ivory bone, and reach vascular marrow.

21. Finally, the most satisfactory results in treatment of acute osteomyelitis can be obtained by complete drainage of soft tissues and marrow in the acute stage, with the removal of extensive necroses, if they occur, at a secondary operation undertaken about two months later, and by adaptation of the regenerative power of the periosteum for the formation of a new shaft.

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[*The discussion on the papers of Drs.* Bottomley *and* Nichols *appeared in* The Journal July 25, 1903.]

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## THE WANING GLORY OF THE LEUCOCYTE.

As the chief hero in the contest between the bacterium and the man, the leucocyte seems to be suffering the fate of many another shining light of battle, and its once high position is being most vigorously assailed. At first, the only means of defense against bacteria that had once gained a foothold and begun to multiply, so far as known, was the intrepid leucocyte, which was supposed to attack the most virulent bacteria, engulf them while in full activity and either to digest them or die in the attempt. Through the work of Metchnikoff and his school, particularly, this power of the leucocyte was made familiar to all, and the subject was elaborated vigorously. It was not long, however, before voices were raised in opposition, contending that the leucocyte was not so much of a hero after all, but merely a scavenger that picked up the bodies of dead or crippled bacteria and destroyed them, but was unable to give much protection against bacteria that were virulent. The injury to the bacteria, according to these investigators, was essential for successful phagocytosis, and was accomplished by soluble substances present in the serum which possessed marked bactericidal powers. Thus arose two schools—the humoralists and the supporters of the phagocytic theory. Naturally enough most of the French pathologists followed Metchnikoff and their work was influenced by his ideas, while the Germans were solidly lined up on the opposite side.

At last the defenders of the leucocyte were forced to recognize the actual fact of the presence of bactericidal substances in normal blood plasma, and they then fell back to the ground that, although the leucocyte could pick up and destroy virulent bacteria, yet they were much better able to accomplish this if the organisms had been previously injured, and that the substances that injured the bacteria were produced and secreted by the leucocytes. Destruction of bacteria, they contended, was the function of leucocytes, which was accomplished either intracellularly after phagocytosis, or extracellularly by bactericidal products of the leucocytes, or by combining the two processes. As a compromise that recognized the potencies of the serum, this view met with considerable favor, particularly as there were many features of immunity that bore it out, and Buchner, Gruber and others were convinced that "alexin," the bactericidal constituent of blood plasma, was a product of the leucocytes and in nature like a proteolytic enzyme. Ehrlich and his school, by showing that the alexin of Buchner really represents two uniting substances, the "complement" and the "intermediary body," made necessary further modification of the leucocyte's part in immunity, which developed in the form of an assumption that the complement, which bears much resemblance to a ferment, was the contribution of the leucocyte, particularly the polymorphonuclear neutrophile.

But even this last shred of honor is threatened, and particularly by the interesting studies of Petrie.[1] Using the method of Rowland for obtaining the inmost constituents of cells, which consists of triturating the cells after they have been made brittle by exposure to the temperature of liquid air, he obtained extracts of leucocytes. Although this process does not destroy the bacteriolytic properties of normal serums, the extracts of the leucocytes so obtained were found to be entirely devoid of bactericidal powers, showing that they contained nothing resembling an "alexin." Neither did they contain anything in the shape of a bactericidal "complement," for they could not reactivate the normally bactericidal serum that had been deprived of complement by heating. This was found to be the case with the leucocytes of the normal rabbits when tried against typhoid bacilli, for which the serum of rabbits is powerfully bactericidal, and the leucocytes of rabbits rendered highly resistant to typhoid bacilli by immunizing were equally devoid of alexin or complement. From these experiments, which are in accord with others performed by different methods, it appears that Metchnikoff's view that the bactericidal substances of blood exist in the bodies of the leucocytes to be liberated on their destruction, can not be accepted. There remains still the possibility that the leucocytes really do secrete bactericidal substances, but that they do not exist preformed within the cell. In other words, they resemble the inactive zymogens that become active on or after secretion.

In any case, however, there is a strong tendency, based on good grounds, to rob the leucocyte of much of its former significance. Yet it is still to be contended that the leucocytes must have some function, and this is almost certainly connected with the resistance of the body against infection, and even if it does not happen to be just what Metchnikoff thought, yet it is probably of importance, else why the leucocyte?

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## OCHRONOSIS.

In a former issue[2] we reviewed editorially the important features characterizing the anomaly known as alkaptonuria. It was pointed out that Garrod regards it as a "sport" or an alternative mode of metabolism. Until a very recent date the only clinical significance that alkaptonuria possessed rested in the fact that a number of the cases had been mistaken for diabetes mellitus, owing to the power the urine possessed of reducing copper solutions. Due consideration of the other characteristics of the urine should have obviated this mistake, however. The vast majority of the patients have no symptoms referable to the anomaly, and it appears to have no tendency to shorten life.

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[1] Jour. of Path. and Bact., 1903, ix, 130.

[2] The Journal, Jan. 30, 1904, p. 313.

Recent observations indicate that a pathologic condition of great interest and rarity is associated with and probably due to the metabolic disturbance in alkaptonuria. Osler[2] has just reported two cases of ochronosis, or pigmentation of the cartilages, in alkaptonuric brothers, both of which cases have already been published in the literature as alkaptonurics, and constituting two of the four instances of this anomaly observed in this country. In 1866, Virchow described a remarkable blackening of the cartilages in the body of a man, aged 67 years, who had died of aneurism, and suggested the name "ochronosis" for the condition. Previous to the two cases here referred to, only seven instances have been recorded. One or two of them were described as having melanuria, but Albrecht,[3] who reported the seventh case in 1902, deserves the credit of first suggesting an association between the disease and alkaptonuria. The urine of his patient was dark colored and reduced sulphate of copper solutions, but hemogentisic acid was not absolutely demonstrated.

Osler's first case is a man 57 years of age. At the present time the sclerotic coats of the eyes show areas of black pigmentation in the exposed portions. The cartilages of the ears, particularly the concha and helix, show a remarkable blue-black discoloration. A noteworthy feature not previously recorded is that a butterfly shaped area of the skin over the nose and cheeks is also markedly pigmented, the pigmentation resembling powder marks very closely. The discoloration of the sclerotics and of the ears was present but less marked eight years ago. The other brother, 49 years of age, presented a similar but less striking pigmentation of the sclerotics and cartilages of the ears. The patient had noticed the pigmentation for several years. There is little doubt but that the deep-seated cartilages of both these patients would manifest the same changes.

The probabilities are that ochronosis is another manifestation of the metabolic disturbances in alkaptonuria, which previously had been recognized only by the urinary changes. Some of the cases of ochronosis have not been associated with alkaptonuria, and Garrod thinks it is possible that there may be two distinct classes. An interesting fact is that Ogden's alkaptonuria case, another of the four American cases, has just been found to have the ochronotic pigmentation. Whereas all alkaptonurics do not have ochronosis, it will probably be shown that all ochronosis cases exhibit alkaptonuric changes in the urine.

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[2] The Lancet, Jan. 2, 1904, p. 10.

[3] Zeitschrift für Heilkunde, 1902, vol. xxiii, p. 366.

## ABSORPTION OF TUBERCLE BACILLI FROM THE ALIMENTARY TRACT.

It is frequently urged, as an argument against Behring's theory as to tuberculous infection taking place through the intestinal tract, that if this were true, then primary tuberculous lesions in the intestines of tuberculous children and adults would be a common finding at necropsy instead of a very rare one.

Koch's paper at the London Congress, in which he asserted that no case of tuberculosis can be considered of alimentary origin unless a primary tuberculous lesion is found in the intestinal tract, gave a new impetus to the controversy over this question as long ago as 1890. Dobroklonski, working under Cornil, had practically proved that tubercle bacilli can pass through an intact intestinal mucosa, for he demonstrated the presence of tubercle bacilli in the solitary follicles, the mesenteric lymph glands and liver of guinea-pigs, which had been fed on glycerin bouillon cultures of this bacillus, and whose intestinal mucosa proved to be without demonstrable lesion. Dobroklonski, however, was unable to discover the path traveled by the tubercle bacilli. This missing link was supplied by Nicholas and Dercas, in Arloing's laboratory, who fed fasting dogs a mixture of greasy soup and milk in which had been incorporated large quantities of potato culture of tubercle bacilli. The dogs were killed about three hours after feeding, the chyle collected from the thoracic duct and injected into the peritoneal cavity of guinea-pigs. Positive results were obtained from two of the six dogs.

Still more convincing results have just been obtained by Ravenel,[1] bacteriologist to the State Live Stock Sanitary Board of Pennsylvania. He was led to this investigation by having repeatedly observed extensive lung lesions in animals fed with tuberculous material, in whom the intestinal lesions were either absent or very slight. Ravenel followed the procedure of Nicholas and Dercas, using healthy fasting dogs, and preparing them by purgation and a twenty-four-hour fast. A single dose through the stomach tube was then given of an emulsion of warm water and melted butter with which tubercle bacilli in large numbers had been mixed. The dogs were killed after three and a half to four hours, the chyle and mesenteric glands removed, and used for the intraperitoneal inoculation of guinea-pigs. Eight of the ten dogs gave positive results, all of these having been inoculated with bovine tuberculosis of the twenty-ninth or thirtieth generation only, while the two negative ones had been given cultures of human tuberculosis of very low virulence—of the one hundred and forty-second generation. Tubercle bacilli were demonstrated microscopically in the chyle and glands from three of the dogs, but none of the ten showed the smallest intestinal lesion. The chyle and mesenteric glands were used to inoculate twenty-four guinea-pigs, and in twenty-one of these tuberculosis was demonstrated by microscopic as well as macroscopic examination.

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[1] Jour. of Med. Research, vol. v, December, 1903, p. 460.

From these experiments, Ravenel concludes that infection from tuberculous food may take place without a primary intestinal lesion, and that the most favorable condition for such infection is the ingestion of infected foods rich in fats. As the bacilli pass into the chyle and are largely carried into the blood stream through the thoracic duct, it is easy to understand how infection through food may show itself first in the lungs, while the infection of the solitary follicles and mesenteric lymph glands, observed by Dobroklonski, is also easy to explain.

Apparently, therefore, we have experimental proof that, in the lower animals at least, pulmonary tuberculosis may be contracted through the ingestion of milk infected with tubercle bacilli, and that the lesion may be primary in the lungs, the intestines showing no lesions. There is no reason to suppose that the same thing may not be true of human beings also.

## SOME FURTHER OBSERVATIONS ON ULTRA-MICROSCOPIC PARTICLES.

Some time ago[1] we commented on a new method for the observation of ultra-microscopic particles. The method was first described by two German physicists, Siedentopf and Ziegmondy. The principle is the lateral illumination of the particles by an intense focus of light. With a microscope particles thus illuminated can be seen as small as 0.005 micron and even smaller. The method was first applied to observe minute particles of gold in a piece of glass. It was suggested at that time that it would be of value in the study of colloidal solutions and also of biologic problems.

Raehlmann[2] has recently reported some interesting applications of this method. In studying solutions of pigments he finds that there are present numerous very minute particles. Particles of different colored pigments not only vary in color, but are also characterized by different form and movement. This fact may be of great service in the dye industry on the analysis of pigments. In a mixture of dyes, the resulting color, in some cases, depends on the formation of new particles whose color, form and movement differ from the particles of either of the original dyes. In other cases, the resulting color depends on the arrangement of the color components, the particles of one color forming an envelope about the particles of the other. This arrangement of particles, he says, appears to be the result of the electromagnetic forces of attraction and repulsion.

These facts are undoubtedly of great importance in the staining of tissues, for we must consider the changes that are brought about by the addition of these particles in the stain to the particles in the cell. The apparent structure may be considerably altered in this way. Then, again, we may study by this method the action of stains on the simple constituents of the cell, such as albumin, carbohydrates, etc. Aqueous solutions of egg albumin, which are homogeneous under the highest power of the ordinary microscope, by the new method show a great number of very minute particles from 5 to 10 microns in size. A very high dilution, 1 to 100,000 or more, is used. All the particles are in rapid continuous vibration, and remain always the same distance apart.

This method can be used for the determination of albumin in urine. Not only its presence is detected, but a quantitative estimation can be made. From the character of particles observed in the urine, even a method for the differential diagnosis of the various forms of nephritis is predicted.

Solutions of carbohydrates, such as gum arabic, dextrin, grape sugar and milk sugar, show innumerable fine particles, which, for the most part, polarize light. Aqueous solutions of diastase show particles about the same size as carbohydrate particles, but differ from them in form and movement. Glycogen is highly interesting. With a dilution of 1 to 3,000,000, sufficient particles can be seen to indicate the presence of glycogen. The particles have a characteristic grayish-white color, and are in extremely rapid vibratory motion, which decreases as the dilution increases. The transformation of glycogen into grape sugar under the influence of diastase can be observed under the microscope. The particles of glycogen disappear, and in their place are seen other particles much fewer in number and having an entirely different appearance.

Such facts as the above can not fail to excite the interests of scientists in general, and especially the physicist, chemist and biologist. Certainly these extremely minute particles must be somewhere near the magnitude of molecules of colloids. At least, a tremendous stride has been taken in that direction. Statements denying the possibility of ever seeing molecules must be reconsidered. Who can say but that ultimately we may not be able to observe the mechanics of a chemical process with the eye? Apparently, an entirely new field has been opened up for many branches of science, and this through the application of extremely simple principles.

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[1] The Journal A. M. A., July 11, 1903.

[2] Münchener med. Woch., No. 48, December, 1903.

## SENSITIZING BACTERIA TO THE FINSEN LIGHT.

In a recent communication,[1] Dreyer of Copenhagen reports certain experiments of therapeutic interest on the bactericidal action of erythrosin—one of the eosin stains—in connection with the Finsen light. He finds that the addition of a very small amount of erythrosin to the culture media of bacteria and infusoria causes a very much greater sensitiveness on their part to the yellow and green rays (which are otherwise comparatively ineffective), and that it acts not only directly on the organisms in the cultures, but through a thick layer of integument as well, in this way destroying the *Bacillus prodigiosus* in twenty minutes. He recommends the use of a one per thousand sterile solution of the Grübler erythrosin in normal salt solution, the injection to be made according to Schleich's method at the site of the disorder; the Finsen light application fifteen to twenty minutes in well-vascularized, and, for a shorter time, in cicatricial tissue. While his experiments are still too limited to permit of extensive generalizations, they seem to indicate a possibly valuable therapeutic aid in the use of the light rays against microbic infection. The method is so easily put into practice that its usefulness, if it proves as great as seems to be indicated by this communication, will add greatly to the effectiveness of the Finsen method. It would be interesting to test the effect of the *x*-rays on similarly sensitized germs. Dreyer's communication ends with a request to his colleagues to report to him their experiences with this method.

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[1] Dermatologische Zeitschrift, December.

### A SOLUTION OF THE RACE PROBLEM.

A Philadelphia professor, it is reported, recently called attention to the fact that in his experience the skin of the negro becomes white under the influence of *x*-rays. We have not mastered the question of the origin of pigmentation in the human or other species, and are, therefore, not surprised at any such development. It would be interesting to know how further experiments in this line will result. An ambitious New Jersey physician, it is said, is taking negro babies at birth, and by the use of the light treatment hopes to be able to affect their future color. We anxiously await the outcome of the attempt on the part of science to solve the race problem.

### A RESULT OF CLUB PRACTICE.

The abuses of club practice are rather emphatically shown by a communication in the *British Medical Journal,* January 16, signed "One of the Crushed Doctors." In the community in which the correspondent lives, we are told that a medical man can not even afford a horse, much less leave his practice for a holiday. The amount of medical and surgical work he has to do for nothing is appalling, and if he airs his grievances to the workingman he becomes a monster in that man's sight. Educated people respect the doctor and consider him a gentleman, but the working class, which makes up the larger portion, gives an ignorant nod and familiarly calls the doctor "Jones" or "Smith." If ones tries to collect his bills in court, he receives only the sneers of the crowd and the gibes of the judge for his time, worry, anxiety and loss of sleep, and he has spent 20 shillings to collect 15. He says his experience in this respect has been so bitter that, unless paid at once, he never keeps count of the items, and is happier and better off. The only remedy this crushed doctor sees is in organization in the profession. Physicians must stand together and make their power felt. He says the good money, the easy and spare time, the privileges, the voting power, "the jaunting about, the spending of valuable time and money in betting, gambling, and public houses, the eating and stuffing, the gaudy and expensive dressing, together with the throwing of wholesome food to the rubbish heap," belong to the workingman, not to the doctor in his community. Altogether, it would seem that this "crushed doctor" must be living in a pretty hard community. We have not the evil of club practice in this country to the extent that this contributor indicates, but we may have it if we are not more watchful than we are at present. There are thousands of physicians in this country who are *working for an income less than that which the* average skilled laborer now receives, and with little prospect of improvement. Shall we permit ourselves to fix this condition for a still larger number of our profession by passively permitting club practice to be established among us?

### PHYSICIANS AS DETECTIVES FOR THE POLICE.

In Birmingham, England, the members of the medical profession have taken considerable exception to a circular sent out by the chief constable of that city, calling attention to the murder of a new-born child, and asking information from any physician who had attended a woman who might have been the mother. The physicians object to being made detectives. In the London *Lancet* we note the Birmingham coroner's statement as follows:

> There is a common law liability—a liability that is not specifically set down by act of parliament—under which it becomes the duty of a man, doctors included, to inform the authorities if he believes that a crime has been committed. But, of course, he can always please himself whether or not he does inform them. If he does not, then you have to prove that he has wilfully disregarded his obligation, and that, I can imagine, would not always be an easy matter.

In this connection it is of interest to note that a similar discussion has been taking place recently in this country as the result of the situation in which a certain physician found himself, and concerning which he asked for advice. He was morally certain that a new-born, illegitimate child—at whose birth he officiated—had been strangled, and he was at a loss whether he should inform the authorities, and whether, if he did not inform them, he would be a party to the crime. The opinions expressed were varied, some urging the physician's responsibility to the law and saying that he should not allow crime to go unpunished; others saying that he had no right to violate the confidence that a patient had shown in him by calling him in such a case. Attention was called to the physician's duty to the community. Without discussing the broad subject of privileged communication, perhaps it is fair to say that the physician's attitude should be this: There is no conflict between the law as regards the concealment of crime, on the one hand, and the duty to the patient, on the other. The physician is not a detective; therefore, he should preserve the confidence of his patient while there is any doubt as to a murder, but if he is certain that he has a murderer for a patient the officers of the law should be informed.

### THE CAUSE OF EPILEPTIC CONVULSIONS.

Various theories have been advanced to explain the occurrence of an epileptic seizure, but none of these is entirely satisfactory. It has been supposed that there is a slight chemical change in the gray matter of the cerebral cortex, rendering it very unstable. If, now, the gray matter holds in store a large amount of nerve energy, an epileptic fit may be caused by a sudden and violent discharge of this nerve energy, either with or without a stimulus. Another recent theory is that advanced by Krainski. He found that the output of urea is greatly diminished for a day or more before the occurrence of a fit. In this disturbed metabolism the system is supposed to form ammonium carbonate instead of urea. This compound gives off ammonia, and Krainski believes that the epileptic fits are caused by the ammonia, but this view is contradicted by other authorities. We are, therefore, still very much in the dark concerning the nature of this disease, but it seems that much new light may be thrown on it by experiments. This has recently been attempted, and the results reported are both interesting and encouraging. Mott and Halliburton showed several years ago that the blood, and especially the cerebrospinal fluid of patients suffering from degenerative diseases of the central nervous system, such as epilepsy, combined sclerosis, disseminated sclerosis, etc., contain considerable quantities of cholin ($C_5H_{15}NO_2$). This substance, which is of the nature of an alkaloid, is believed to be split off from lecithin, which in turn is derived from the medullary sheath of the nerve fibers during the process of degeneration. Donath[1] has repeated and verified Mott and Halliburton's observation and came to the conclusion that cholin may be responsible for the convulsions of epilepsy. He examined for cholin the cerebrospinal fluid of 18 cases of idiopathic epilepsy, with 15 positive results; of 3 cases of Jacksonian epilepsy, with 3 positive results, and of many cases of locomotor ataxia, paralytic dementia, brain syphilis and brain tumor, with positive results in nearly 90 per cent. of the cases. By injecting a solution of cholin into the cerebral cortex of animals he was able to produce both localized and general convulsions, which sometimes ended in paresis of groups of muscles. No such convulsions were caused by the injection of salt solution of various concentrations. It would seem, therefore, that epilepsy may be a kind of auto-intoxication, and that the convulsions are caused by a definite chemical substance which is formed in the central nervous system by the degeneration of some of the nerve elements.

## DANGEROUS WOOD ALCOHOL.

The dangers of wood alcohol have been pointed out for several years, but the public seems to have but little knowledge of them. Four negroes died in Chicago a few days ago from drinking wood alcohol which was sold to them under the general name of alcohol. We know of no such wholesale instance of methyl alcohol poisoning before, but it furnishes a striking example of the perils that exist in its substitution in various agencies which are made up for dietetic and other purposes. These colored men were topers in the last degree, drinking their material pure, each probably taking a considerable quantity, though the amount is not stated in the accounts. The material was furnished by a druggist, who, it seems, ought to be liable under both the state and Federal laws for thus retailing alcohol for drinking purposes. If alcohol is allowed to be sold to anyone it is important that it should be the genuine article and not this poisonous form. The use of wood alcohol is extending in various ways, and it is extremely important that its dangers should be recognized by the laity.

## THE PHYSICIAN IN POLITICS.

Our brothers in the medical profession in Colorado are evidently alive to the needs of medical reform in that state and are equally wideawake as to the means of bringing it about. Beside a complete state organization in connection with the Committee on National Legislation of the American Medical Association, with representatives in every county, they have also organized a Colorado Medical Legislation League to secure "the improvement and enforcement of the medical laws of the State of Colorado." This body is non-sectarian, and aims to include all reputable legally qualified physicians who are interested in medical reform and who will devote some of their activities and influence to this end. It is proposed to confront each candidate for office with the question whether he favors or opposes medical reforms. In this way physicians can make their influence felt by politicians who will not dare to disregard the wishes of so influential a body as a united medical profession. The need of such a movement in Colorado is obvious, as in that state the quacks have of late years seemed to have exclusive access to the executive ears, ample as they evidently must have been. If the profession insistently so will it, Colorado can, with the next election, have a governor who will intelligently fill his high office and not annul wholesome medical legislation by vetoes inspired by frauds. With this special education of candidates the league will also carry on a general campaign of education, correcting the erroneous statements that may be given out in the public press and otherwise, and generally educating the public as to the true purposes of the organization. The example is a good one, and it would be well if similar efforts were made in every state.

## THE COST OF PRODUCTION OF DIPHTHERIA ANTITOXIN.

So many statements have been made in the public press during the last few weeks regarding the cost of producing diphtheria antitoxin that it is interesting to turn to the itemized statement published by the State Board of Health of Massachusetts in the thirty-fourth annual report which has just reached us. It appears from this that the expenditures at the pathologic laboratory at Forest Hills, where the diphtheria antitoxin is prepared under the direction of Prof. Theobald Smith, amounted during the year ending Sept. 30, 1902, to $6,562.14. This includes the salaries of assistants and attendants. the purchase of animals, the board of the horses, and the apparatus, chemicals and laboratory supplies, together with a variety of incidental expenses. During the year ending March 31, 1902, 40,211 bottles, and in the year ending March 31, 1903, 33,475 bottles were issued, each bottle containing 1,500 units. This would amount to an average production of 55,264,500 units annually. It is to be presumed that the salary of the director, as well as the expense of distribution, together with depreciation and interest charges on the plant, are not included in the figure given above, which, we understand, is simply the running expense account. As a partial offset to this, however, it may be mentioned that certain examinations of diphtheritic and tuberculous material are made at the Forest Hills laboratory, the cost of which is apparently not separated from that of the antitoxin production. Assuming that the whole amount legitimately chargeable to the cost of producing diphtheria antitoxin was not more than $15,000, which, considering the items included in the statement cited, seem a very liberal estimate, the cost per 1,000 units would not be more than 28 cents. In view of the figures printed in The Journal, January 23, this would seem to indicate that the price of $1.33 per 1,000 units recently established by the manufacturers, affords a margin larger than would be deemed absolutely necessary to the profitable and successful conduct of ordinary commercial undertakings.

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[1] Zeitschr. f. Physiol. Chemie, xxxix, 526.

## Medical News.

### ALABAMA.

**Will Enforce Law.**—Twelve physicians have been appointed by Dr. Charles Whelan, Jr., city physician of Birmingham, to carry out the law, which provides that all persons shall be vaccinated who can not show signs of successful vaccination during the last seven years.

**Personal.**—Dr. Claude L. Murphee, Gadsden, has been elected health officer of Etowah County.——Dr. George A. Ketchum has been re-elected chairman, and Dr. Vivian P. Gaines, secretary, of the board of censors, of the Mobile Board of Health.——Dr. Ulysses G. Mason has resigned as assistant city physician of Birmingham.

**Smallpox.**—All public gatherings at Sheffield have been prohibited in Sheffield, which has at present 15 cases.——Florence has quarantined against Sheffield.——Altoona has 4 cases.——Jefferson County Medical Society, on account of the prevalence of smallpox in the county, urges compulsory vaccination.——Cordova is rumored to have about 250 cases.——Several cases have developed in Tuscumbia, and compulsory vaccination of all school children has been ordered.

### COLORADO.

**Jury Disagreed.**—In the suit brought by Edward O'Donnell against Dr. Daniel R. Lucy, Denver, for alleged malpractice, in which the plaintiff claimed $10,000 damages, the jury failed to agree, and was discharged.

**December Deaths.**—During December 800 deaths were reported in the state, equivalent to an annual mortality of 16.38 per 1,000. Of these 23 were due to typhoid fever, 20 to diphtheria, and 16 to scarlet fever.

**Typhoid Epidemic in Leadville.**—Leadville has had about 500 cases of typhoid fever; the State Board of Health has cooperated with the local authorities, and it is now believed that the situation is well in hand. The chief work now being done is in the direction of tracing the infection to its source.

**Communicable Diseases.**—There were reported to the State Board of Health, during December, 200 cases of scarlet fever, 121 cases of diphtheria, 100 cases of smallpox and 77 cases of typhoid fever. Compared with the previous month this shows an increase of 21 cases of diphtheria, 49 cases of scarlet fever, and 40 cases of smallpox, and a decrease of 244 cases of typhoid fever.

**Boulder County Medical Society.**—This society held its annual meeting in Boulder, January 7, and elected the following officers: President, Dr. Walter W. Reed; vice-president, Dr. William J. Baird; secretary, Dr. Oscar M. Gilbert; treasurer, Dr. Martin E. Miles; censors, Drs. George H. Cattermole, Horace O. Dodge, and William J. Baird, and delegate to state society, Dr. George H. Cattermole, all of Boulder.

### CONNECTICUT.

**Infectious Diseases.**—Two cases of smallpox were reported during December, 1,722 cases of measles, 184 cases of scarlet fever, 152 cases of diphtheria, 55 cases of whooping cough, 65 cases of typhoid fever, and 22 cases of consumption.

**Unlicensed Practitioners Fined.**—J. Lewis Sweet, Milford, and Eugene J. Higgins, New Haven, charged with prescribing drugs for pay without a physician's license from the state, were each fined $100 and costs, the minimum sentence under the law.

**December Mortality.**—During December there were 1,322 deaths in the state, equivalent to an annual mortality rate of 17 per 1,000. There were 151 more deaths than in the month preceding, 24 more than in December, 1902, and 128 more than the average for December of the last 5 years. Infectious diseases caused 18.3 per cent. of the mortality.

**Temperance, Physiology and Hygiene.**—The Connecticut State Board of Education has sent out a pamphlet to teachers, with suggestions as to teaching temperance, physiology and hygiene. The objections advanced to alcohol as a drink are that it injures the cells of the body, weakens the muscles, harms mind and morals, decreases resistance power, predisposes to disease, and tobacco is arraigned because it retards growth, dulls intellectual power, may produce serious nervous disturbances, and interfere with digestion and predisposes to diseases of the throat and heart.

### ILLINOIS.

**Personal.**—Dr. Llewellyn B. Ashton, assistant surgeon at the Soldiers' Home, Quincy, has resigned.——Dr. Martin Cushing has been appointed local surgeon of the Chicago and Alton Railway at Joliet, vice Dr. James A. Clyne.

**Normal and Not Bloomington Has Smallpox.**—An item in The Journal of last week was incorrect in that it stated that schools and churches in Bloomington were closed indefinitely on account of smallpox. Normal, which adjoins Bloomington, is the infected town, and Bloomington has at present only one case of smallpox.

**Eminent Chemist Dead.**—Prof. Arthur W. Palmer, head of the department of chemistry in the University of Illinois, Champaign, who had made a national reputation by his research work for the last nine years on the Illinois water survey, died at his home in Champaign, February 3, after a short illness, aged 33.

**Prevention and Suppression of Typhoid.**—The Illinois State Board of Health has prepared rules and regulations concerning the prevention and suppression of typhoid fever. These were formally adopted by the board at the annual meeting. Copies of these rules have been sent to all newspapers in the state and to every county, township, village and city health officer, and they will also be distributed among the people by the local health officers.

### Chicago.

**Personal.**—Dr. Ludvig Hektoen is expected to deliver an address before the Minneapolis Pathological Society February 15. The Hennepin County Medical Society and the Minneapolis Medical Club have been invited to be present.

**Addition to Hospital.**—The directors and medical board of Presbyterian Hospital have under consideration plans for the construction of additions to the institution, including a surgical pavilion and a new out-patient dispensary for the poor. Part of the $500,000 required for these additions has already been pledged.

**January Deaths.**—The total deaths for the month were 2,361, or an annual rate of 1,424 per 1,000. In January, 1903, 2,573 died, and in December, 1903, 2,354. The principal death-causes were pneumonia, 504; consumption, 248; heart diseases, 205; Bright's disease, 156; violence, 141 (not including deaths from Iroquois Theater fire), and bronchitis, 123.

**Deaths of the Week.**—The total deaths for the week ended February 6 were 596, equivalent to an annual death-rate of 15.92 per 1,000; exactly the same number as in the corresponding week of 1903. Pneumonia still maintains its lead with 151, consumption following with 54, and Bright's disease and heart disease coming next with 48 and 45 respectively.

**Popular Lectures.**—Under the auspices of the School of Domestic Arts and Sciences, the following arrangements for lectures have been made: Dr. Walter S. Christopher, "Care and Diet of Children"; Dr. John B. Murphy, "The Significance of Timely Action in Acute Surgical Diseases"; Dr. Harry B. Favill, "Food Requirements"; Dr. E. Fletcher Ingals, "Colds," and Dr. James B. Herrick, "Self-Limitations of Certain Diseases."

**The Pasteur Institute's Work.**—Dr. Antonio Lagorio, director of the Pasteur Institute, reports that since the institute was opened, July 2, 1890, 2,026 patients have received the antihydrophobic treatment. Of these 1,807 had been bitten by dogs, 76 by horses, 57 by cats, 19 by cows, 18 by skunks, 25 by other animals, and 22 were infected by hydrophobic human beings. Of individuals bitten by animals absolutely known to have been rabid, 982 were treated; of patients bitten by animals presumed to have been rabid because of symptoms of disease during life, 776 were treated, while 268 cases were cared for in which rabies was suspected. Only 7 deaths are reported. a mortality of 0.34 per cent. Six individuals abandoned treatment, 2 of whom subsequently died from hydrophobia.

## INDIANA.

**Hospital Opens.**—The Flower Mission Hospital for Incurables, Indianapolis, was opened for patients, January 27.

**Nurses Meet.**—A meeting of the Indiana State Nurses' Association will be held at the Grand Hotel, Indianapolis, February 22.

**All Physicians Members.**—The Vanderburg County Medical Society held its regular meeting, January 10, at the offices of Drs. Walker Welborn, Evansville, it being the tenth anniversary of the opening of the Evansville Sanitarium. This society, three years ago, took into its membership all sectarians, and now practically every physician in the county is on its roll. The result has been entirely satisfactory. Evansville was the first city to take so sweeping an action.

**Vital Statistics of Indianapolis.**—During January, 1,004 cases of measles were reported. In January, 1903, 261 cases of smallpox were reported, and only 2 in January, 1904. Typhoid fever had 50 victims in January, 1903, and only 7 cases in January of this year. A similar reduction was observed as regarded diphtheria and scarlet fever. During 1903, 3,004 deaths occurred, a death-rate of 15.02 per 1,000. Tuberculosis caused 353 deaths; pneumonia, 185; smallpox, 96; typhoid fever, 93, and diphtheria, 35.

**Sickness and Death in December.**—Measles was reported from all parts of the state in December. There were 9 deaths, and at least 10,000 cases. Tonsillitis was second in prevalence, many of the cases, no doubt, being diphtheria. Pneumonia was third in prevalence, then rheumatism, bronchitis, influenza, smallpox, scarlet fever, typhoid fever, diphtheria and diarrhea in the order named. Of smallpox 523 cases, with 2 deaths, were reported. In the corresponding month of last year 642 cases were reported, with 17 deaths. Almost one-half of the cases were reported from Clay County. The first marked epidemic of smallpox occurred in that county four years ago, and despite many deaths and a great number of severe cases, it has been impossible to secure general vaccination. The deaths from tuberculosis numbered 371, a rate of 173.9 per 100,000. In the same month of 1902, the deaths numbered 319, rate 149.5. Typhoid fever caused 65 deaths. In the same month last year 91 deaths were reported. There were 701 cases in all. Pneumonia caused 392 deaths, a rate of 183.8 per 100,000. In the same month last year 267 deaths were reported, a rate of 125.1. By other causes than the above, the deaths were: diphtheria, 54; scarlet fever, 34; diarrheal diseases, 23; cerebrospinal meningitis, 34; influenza, 35; puerperal fever, 10; cancer, 91, and violence 153.

## MARYLAND.

**Diphtheria and Smallpox.**—Seven cases of diphtheria have occurred in one family in Baltimore County.——The smallpox situation in Garret County was said to be improving January 31.

**Want General Hospital.**—A public meeting was held at Hagerstown, February 2, for the establishment of a general hospital there for Washington County. The movement originated with the county medical society. A committee was appointed to get charter and necessary legislation, including an appropriation from the legislature.

### Baltimore.

**Vital Statistics Fees.**—An ordinance proposed in the city council for paying physicians $1 for registering deaths and births has been indefinitely postponed.

**Personal.**—Dr. Nathaniel G. Keirle, Jr., has returned from Paris. He will take charge of the laboratory of the Pasteur Institute of the College of Physicians and Surgeons.

**Crusade Against Spitting.**—One effect of the Tuberculosis Exposition is that the city health department has started a crusade against spitting in street cars, public buildings, etc. Much comment has been caused by the refusal of a magistrate to enforce the law on the subject.

**January Disease and Death.**—The report for January shows 959 deaths and 674 births. The health department has not succeeded in having all the latter reported as yet, whereas no one can be buried without a permit. Diphtheria, tuberculosis, scarlet fever and typhoid were more prevalent than last year, while influenza and pneumonia showed a much reduced mortality and measles was not represented.

**The Baltimore Fire.**—The great fire of Feb. 7 and 8, 1904, which burned over twenty-four squares of the business center of Baltimore, entailing a loss of over $100,000,000, but which was marked by exceedingly few fatalities, burned the office of the State Board of Health. The offices of the *Maryland Medical Journal* escaped, as did Johns Hopkins Medical School and Hospital, although the latter were within a few blocks of the fire.

**Tuberculosis Exposition Closed.**—The Tuberculosis Exposition closed February 1. The legislature was invited to inspect it on that day, but only two members came. Dr. William Osler gave an address at 10 a. m. on the "Literature of Tuberculosis," using the collection which had been made for the exposition. The disease has always been known, but Hippocrates confounded it with other affections causing extreme emaciation. He made five periods of the history of tuberculosis: 1, from Hippocrates to seventeenth century, Morton of England and Sylvius of Holland; 2, from the latter to 1810, Bedard; 3, from the last to 1819, Laennec; 4, from Laennec to 1882, Koch, and 5, since Koch. A great crowd attended this final lecture of the series.

**Dispensary Report.**—The Northeastern Dispensary makes the following report for 1903: New patients, 7,250; total visits, 15,798; visits in general medicine, 5,853; in eye department, 2,353; in ear department, 294; in gynecological department, 1,050; in surgical department, 1,714; in children's department, 3,534; in skin department, 892; in dental department, 710; in obstetrical department, 13; operations in eye department, 221; operations in ear department, 85; operations in nose and throat department, 10; operations in surgical department, 117; operations in gynecological department, 543; patients visited at their homes, 230; visits made to the homes, 1,032; prescriptions filled in dispensary, 21,385; prescriptions filled for outside physicians, 905. Dr. Arthur Wegefarth was re-elected president of the board and Dr. Alexander D. McConachie, secretary. The following changes in the staff were made: Dr. Louise Erich was placed in charge of the orthopedic department; Dr. Ernest Lehnert was made assistant in surgery and gynecology; Dr. A. G. Singewald was appointed to the children's department, and Dr. P. E. Lilly was made chief of the outdoor clinic.

## MASSACHUSETTS.

**Senate Refuses Antitoxin Grant.**—The senate has refused to grant to the State Board of Health the $1,500 necessary to produce the antitoxin and vaccine virus which they are directed by last year's legislation to furnish free to the physicians of the state.

**Object to Removal of Ice by Salt.**—The Boston Board of Health has warned people, especially the street railway employes, that salt must not be used so freely in getting rid of ice and snow. Much complaint has arisen because pedestrians have been obliged so often to wade in a freezing mixture of snow, water and salt, resulting in serious risk to health.

**Would Abolish Unpaid Commissioners.**—Out of the investigation of pauper institutions at Long Island last summer, when the board of unpaid commissioners was criticised because the City Chronic Hospital was so well conducted, has come a bill to the legislature, abolishing the board and substituting one paid commissioner. The bill was approved by Mayor Collins' legal representative, and is not likely to be favorably reported.

**Newton Hospital Report.**—The reports presented at the annual meeting of the Newton Hospital Corporation showed assets of $216,079; endowment, $74,087; contributions from the churches of the city, $10,805, and earnings, $24,485, an increase of $2,000 over 1902. Current expenses were $36,049, $2,500 less than in 1902; 814 patients received treatment, the average cost in the wards being $14.00 per week, and in the contagious wards, $20.00 per week. A new maternity ward is urgently needed. The vote abolishing the office of superintendent virtually removed Dr. Francis G. Curtis, who for six years has served without pay. Dr. J. R. Phelps, Malden, is the newly elected house officer in charge.

## NEW YORK.

### New York City.

**Munificent Gifts.**—Miss Emily A. Watson has given $100,000 to the New York Orthopedic Dispensary and Hospital, to establish a branch of the institution at White Plains; she has also agreed to endow this branch with a fund of $250,000.

**Midwives Prescribed.**—Five of the six midwives in the Bronx charged with practicing medicine without a license pleaded guilty, January 25, and were each fined $50. The New York County Medical Society preferred charges in these cases.

**Norwegian Hospital Open.**—The new Norwegian Hospital, Brooklyn, is almost ready to receive patients. It was opened, February 1, with a fair, which continued all the week. The institution will accommodate 100 patients and will represent an outlay of about $150,000.

**Attendants Exonerated.**—The charges brought against certain nurses in the Manhattan State Hospital, Ward's Island, by Miss Ellen Isibel Farley, after having been thoroughly investigated by the State Commission in Lunacy, have been declared without foundation, and have been dismissed.

## OHIO.

**Osteopath Fined for Not Reporting Diphtheria.**—Joseph A. Vance, president of the Ohio College of Osteopathy, Chillicothe, was fined $20 and costs, February 2, for failing to report a case of diphtheria to the proper health officials.

**Typhoid in Columbus.**—During January 723 cases of typhoid fever were reported in Columbus, with 23 deaths. On January 31 the highest record of new cases was made, with 81. The mayor has appointed a joint commission from the local board of health, a committee from the Columbus Academy of Medicine, and the sanitary committee of the board of trade, to investigate and report on the causes of the epidemic.

**Vital Statistics of Dayton.**—The report of the board of health for the year 1903 shows a total of 1,928 births, or 20.29 per 1,000 of population. At least one birth in ten, it is thought, was not reported. The number of deaths for the same period was 1,198, or 1,261 per 1,000 of population. The report also shows that 110 cases of smallpox developed in the city during 1903, costing an average of $136 per patient. The department vaccinated 6,500 free of charge, and this wholesale vaccination put an end to the epidemic.

### Cincinnati.

**District Physicians.**—Dr. J. W. Hall has been appointed district physician to the eighth ward, vice Dr. C. W. Dane, resigned, and Dr. Frank C. King, in the fourth ward, vice Dr. J. T. McKibben, resigned.

**Christ's Hospital Reopened.**—Christ's Hospital, closed for repairs July 1, 1903, was reopened to patients February 1. The repairs practically amounted to a remodeling, and have cost more than $60,000. The hospital now has accommodations for 100 patients, and in addition there is an outside building which will accommodate about 45 deaconess nurses.

**Peculiar Situation at Hospital.**—A peculiar condition of affairs exists at the Cincinnati Hospital. The annual appropriation has been so small and the number of patients so large that gradually the hospital has been getting deeper into debt, until now it owes about $30,000. The hospital now contains 120 more patients than it really has room for, and they are sleeping in the end-rooms, on the floor and wherever an additional cot can be squeezed in. The reason of this overcrowding is the measles and typhoid epidemics, and to this fact the attention of the board of public service has recently been called. According to the law, the $50,000 bond issue asked for can be allowed only by an election, which would cost the city $20,000, or it must be shown that there is some extraordinary need, as, for instance, an epidemic. The medical directors of the Cincinnati Hospital then reported to the board of public service that there is an epidemic both of measles and typhoid fever in the city. Following this advice the board immediately authorized a $50,000 bond issue for emergency hospital purposes. Before the bonds can be issued, however, the ruling must pass the council, but no difficulty is anticipated here, as press and public are heartily in favor of the movement.

## TENNESSEE.

**Anti-Vaccinationists Arraigned.**—The health officer of Knoxville has sworn out 18 warrants for individuals who have refused to be vaccinated as prescribed by the city ordinance.

**Smallpox.**—Lowerville reports 7 cases, with no deaths.——Several prisoners in the Jacksboro jail are suffering from smallpox, and the jail is under strict quarantine.——On February 1 there were 280 people in the Knoxville detention camp and isolation hospital. The situation has greatly improved.

**Dr. Happel's Illness Not Severe.**—It was reported that Dr. T. J. Happel, Trenton, had suffered a stroke of apoplexy. We are happy to state that the only foundation for the rumors was the fact that, while eating, Dr. Happel suffered from a spasm of the glottis, followed by fainting. He recovered in an hour.

## GENERAL.

**The Ingersoll Lecture** at Harvard University this year will be given by Dr. William Osler, on "Science and Immortality."

**The Association of American Universities**, at its meeting at Yale, February 18-20, will discuss the actual and the proper lines of distinction between college and university work, uniformity of university work, the administration of publications and their circulation, and whether the bachelor degrees in science and letters are to be preserved or are to be merged in the degree of bachelor of arts.

**Examinations for Army Medical Service.**—The examination of applicants for appointment as assistant surgeon in the United States Army will be resumed in Washington immediately after the close of the present session of the Army Medical School; it will embrace the full examination (as heretofore), at the conclusion of which those found qualified will be commissioned. Full information as to the requisite qualifications, nature of examination, etc., may be obtained from the Surgeon-General of the U. S. Army, Washington, D. C. The examining board will probably reassemble about the middle of April, and applicants should make application at once. Applicants are restricted in age to thirty years, and one year's hospital experience or its equivalent in private practice is required.

## CANADA.

**Protestant Hospital for Insane, Quebec.**—At the annual meeting in Montreal last week, voluntary commitment was discussed; the medical superintendent, Dr. Burgess, had been solicited by people who believed they would be mentally benefited by treatment in the institution. The law forbids this form of commitment. The matter will be brought to the attention of the provincial government. The admissions for 1903 were 152; number under treatment, 581; discharged as recovered, 57; as improved, 23; deaths, 44.

**Ontario Teachers To Be Trained in Hygiene.**—A medical conference was held last week in Toronto, as the first step in an investigation of school hygiene by the Ontario Board of Health. One result of the conference may be a medical section in connection with the annual conference of the Ontario Teachers' Association. Papers were read on the prevention of infectious diseases, and Dr. C. A. Hodgetts, secretary of the Ontario Board of Health, advocated compulsory drill for school boys, as the basis for men trained for the militia.

**Personal.**—Dr. A. J. Richer, secretary of the Montreal League for the Prevention and Cure of Tuberculosis, has returned from a four weeks' visit to the United States, where he studied tuberculosis organizations and methods.——Dr. A. D. Decelles, general librarian of the parliamentary library at Ottawa, who was created by the government of France a chevalier of the Legon of Honor last October, for his work in connection with literature, was presented by his friends with a beautifully wrought address and a massive silver inkstand, last week, the presentation being made by Dr. Prevost of Ottawa.

**Unusual Mortality in Toronto in January.**—For the first time in the history of the city, so far as the records show, deaths for January numbered 412, an excess of seventy over January, 1903. Sixty-five cases of pneumonia died, and 178 persons died who were over 50 years of age. Of these six were over 90 years, 31 over 80, 39 over 70, 61 over 60 and 41 over 50. There were 26 deaths from tuberculosis and 21 from diphtheria. During the month there were 415 births. The city was remarkably immune from typhoid fever, only 2 cases being reported. This showing indicates the purity of Toronto's water supply; it has been asserted that it is the purest in America.

## FOREIGN.

**Liverpool University's new chair in dermatology** is the gift of Dr. Stopford Taylor.

**Tenth Quadrennial Congress of Polish Physicians and Scientists.**—This will be held in Lemberg, Austria, July 20-24,

1904. Dr. Francis E. Fronczak, 508 Fillmore Avenue, Buffalo, N. Y., is the United States representative of the committee of arrangements.

**Isolation of Consumptives in Hospitals.**—The Paris Société des Hôpitaux recently voted a resolution urging the authorities to insist on the isolation of all cases of "open tuberculosis." In order to have it attended to at once they advocate placing in the general wards in the hospitals glass partitions to wall off a certain part of the ward to be allotted to this class of patients entirely. This will reduce the danger of contagion for the other patients, while not adding to the tasks of the attendants or increasing the difficulty of supervision of the ward.

## DUBLIN LETTER.

### Deaths in the Profession of Dublin.

During the past year death dealt unusually harshly with the medical profession in Dublin. Only a few months ago two colleagues at the Royal City of Dublin Hospital, Sir George Duffey and Mr. H. G. Croly, past presidents of the royal colleges of physicians and surgeons, respectively, passed away within a few weeks of each other. On Christmas day a veteran of Dublin practice followed them, Dr. C. F. Moore, who had been for many years certifying surgeon under the factory acts, and had nearly reached his ninetieth year. With the new year Trinity College lost two distinguished graduates —one of her oldest and one of her youngest in the service of the king. Sir William Kynsey had entered the Army Medical Service in 1863, and after serving in the Ashantee war was appointed to an important government post in Ceylon, which he held till a few years ago. Lieut. Joseph Welland had entered the Royal Army Medical Corps in 1900, and now in his second campaign in Somaliland has been speared in battle while in discharge of his duty. As a Dublin student he was a well-known oarsman, and some of your readers will learn with regretful interest that he stroked the Dublin crew in the famous contest with the Pennsylvania crew at Killarney in 1901.

### The Poor Law Medical Service.

The one subject of interest to the profession in Ireland at present is the position of the medical officer in the Poor Law Medical Service. Though to all Irishmen, at home or abroad, the "dispensary doctor" is as familiar a figure as the parish priest, and his position as well defined, yet it may be well, in a few words, to explain his position and duties. It is the custom for the local elective boards, the boards of guardians, to appoint in each district throughout the whole country, a medical man whose duty it is, at a fixed salary, to attend all the poor of the district. There is no definition of "poor person," and to be entitled to free medical treatment, all that is necessary is the possession of a ticket signed by a member of the board of guardians. When it is remembered that many of the guardians are small shopkeepers and village publicans, it is obvious that abuse of the issue of tickets is easy. In pursuance of his duty the dispensary physician has to attend on fixed days, two, three, or more in the week, at appointed stations in his district and give the necessary treatment to those who present themselves. In addition, he has to hold himself in readiness to attend patients at his own house at any time, and should he receive a "visiting ticket" he must at once, whether by day or night, proceed to visit the patient. He is not allowed to leave his district, even for an hour, without permission from the guardians. The salaries paid to the medical officers vary from £30 to about £150 a year (about $150 to $750), but, of course, private practice is allowed, so long as it does not interfere with public duties. The districts vary greatly in size, some being only four or five miles in diameter, and others up to thirty or forty. In many parts of the country almost the whole population come under the title of "poor persons," and obtain gratuitous medical relief, it not being an unusual thing for a guardian to issue tickets to his own immediate relatives. It will be easily seen that under such circumstances the emoluments from private practice are inconsiderable. Under the most favorable conditions, except in some of the more prosperous country towns, the position of the dispensary physician is an unenviable one. He is the servant of a board composed of men who are for the most part his inferiors in education and social position. He has no time of leisure; night and day he is at the beck and call of the public. His salary is small, and out of it he must keep one or two horses and a trap. In addition to his strictly medical duties, he is in nearly every case his own dispenser. He has no right to any annual holiday, and if with difficulty he obtains it, he usually has to pay his substitute, at least in part. There is no satisfactory arrangement for superannuation, and after forty years' service, when old age and ill health make retirement a necessity, a pension may be refused. Again, the election of the medical officer being in the hands of a popular and often ignorant board, who are quite incapable of judging the qualifications or professional merits of the candidates, the appointment is made on other grounds than desert. Family influence, religious and political considerations carry the day. In some cases, indeed, the advertisement for a medical office demands that he must be a member of a certain political organization. At the present time firm stand is being made by the profession in Ireland, and the Irish Medical Association, the strongest representative body of medical men in the country, has adopted a certain program of what it considers the minimum of necessary reform. The points insisted on are, in brief, higher salaries, with a minimum of £200 a year, a monthly holiday of four weeks, and proper pension arrangements. Many of the more ardent reformers, however, go much further, and, in particular, Dr. Kidd of Enniskillen urges that the whole medical work of the poor law service should pass into the hands of the state, to be managed on lines similar to the navy and army medical services. Other medical men differ widely on this point, and quite recently Dr. McArdle, a well-known surgeon in Dublin, has had a tilt at Dr. Kidd in the daily press. There are present many dispensary appointments vacant all over the country, it being impossible to attract candidates at the salaries offered.

### The Tuberculosis Prophylaxis Campaign.

The most serious problem of public health in Ireland at present is the question of tuberculosis. While in England and Scotland during the last forty years the death rate from tubercular diseases has diminished by nearly a half, the rate in Ireland is practically stationary. This, in itself, is very discouraging, but when it is remembered that the population in Ireland is mainly agricultural, and in England industrial, it is even worse, since the agricultural life is certainly the more hygienic. Vigorous attempts are being made on all sides to instruct the people in the proper measures to adopt to prevent tuberculosis, and the Roman Catholic priesthood has taken the matter up very warmly, and the bishops have arranged for lectures in hygiene to be given at the College at Maynooth. The National Board of Education, in like manner, is giving instruction to the primary teachers, whose influence reaches very far. The present accommodation in Dublin for the treatment of consumption is still far from adequate. Institutions of two kinds are needed, for the isolation and care of incurable patients, and for the treatment and cure of early cases. There are, of course, institutions of both kinds doing excellent work as far as their resources allow, but they are on too small a scale and hampered by lack of funds. The danger to the public from tuberculosis is of the gravest nature, and demands public action of a comprehensive kind.

A case of typhoid fever, very interesting on the pathologic side, has just been published by Dr. H. C. Drury, a Dublin physician. The patient, a young man of 21, recovered from an attack of typhoid, perforation having taken place and operation performed in consequence. Twenty-one days after the temperature had become normal acute obstruction of the bowels occurred, and, in spite of operation, the patient died. The obstruction was due to extensive peritoneal adhesions, but the state of the interior of the bowel was the most interesting point. Here was found an enormous number of ulcers still unhealed, three weeks after the temperature was normal, during a fortnight of which time solid food was being given.

## LONDON LETTER.

### The Profession in 1904.

The Medical Directory for 1904 shows that there are 37,730 registered practitioners—an increase of 439 on the number for 1903. It is satisfactory to chronicle that in the overcrowded state of the profession the annual addition tends to decrease. Thus in 1894 the addition was 1,013; in 1895, 818; in 1896, 730; in 1898, 713; in 1899, 619; in 1900, 534, and in 1903, 503.

### Royal Army Medical College and Hospital.

A new military hospital has for some years been building on the Thames Embankment, and is now nearly complete. It will be the military hospital for the London garrison. There will be 225 beds, of which 150 will be assigned for ordinary purposes, excluding venereal diseases, and 75 will be reserved in clinical wards for special cases. The professors of military surgery and tropical medicine of the Royal Army Medical College will be in charge of the surgical and medical divisions respectively, and will give clinical instruction to the medical officers attending the college. They will be assisted by officers who will perform duties similar to those of house officers in civil hospitals. Near the hospital will be built the Royal Army Medical College, which will contain class rooms and laboratory accommodation for pathology and bacteriology. These arrangements are part of the outcome of the radical reform of the army medical department, which resulted from the sensation produced by the so-called "hospital scandals" of the Boer War.

### State Registration of Trained Nurses.

The Royal British Nurses' Association is promoting a bill for the state registration of trained nurses. A central board is proposed of physicians and nurses appointed by medical and nursing organizations. At first two years' training in an institution recognized by the central board will be required, later three years' training and the attainment of the age of 24.

### The Naval Medical Service.

In recent years important changes have been made in the naval medical service with a view to secure increased efficiency. A consultative board has been introduced, consisting of three civilian physicians of eminence and two naval medical officers to bring the navy into touch with the medical profession outside the service and to introduce improvements in hospitals, both on shore and afloat. Special instruction of medical officers in the diseases of foreign stations with special wards for the study of such diseases has been established at Haslar. An institutional officer versed in these diseases has been placed in charge with an allowance of $750 per annum in addition to his ordinary pay and residence. Prizes for excellent work, a gold medal, a microscope, a silver medal, and books will be awarded to surgeons under instruction on the termination of the half-yearly sessions. The number of medical officers attending graduate instruction has been much increased, and such instruction is applicable not only to surgeons as formerly, but also to staff-surgeons and fleet-surgeons. A complete outfit of surgical instruments is supplied to all ships; the surgeon is now required to provide only a pocket case. The examinations have been remodeled. The examination for the promotion of surgeons to the rank of staff-surgeon will be conducted by the civil medical examining board with a naval medical officer for the examination in naval hygiene. Greater facilities and inducements are offered to the house officers of the large civil hospitals to enter the navy. Those who on entry hold, or are about to hold, such appointments, are allowed to serve on in that appointment up to one year, reckoning the time served for increase of their pay. Earlier promotion to the rank of staff-surgeon is also granted to these surgeons, and one year's seniority may be so gained. The period of service required of surgeons before undergoing examination for promotion has been reduced from eight to five years. The pay has been increased. Formerly a surgeon received $1,000 a year on entry, and an inspector-general $5,000, with quarters; the former now receives $1,250 and the latter $6,500. The regulations as to withdrawal from the service have been extended, and a surgeon may now be allowed to withdraw after four years' service, with a gratuity of $1,250, on condition of joining a reserve for service, in case of war or emergency, for a period not exceeding eight years.

### The National Hospital for the Paralyzed and Epileptic.

An appeal is being made for funds to prosecute researches into the origin of nervous diseases at this world-famous hospital. The object is to make provision for permanent and systematic pathologic work, so that the large available material of the hospital may not be lost to science, as most of it now is. It may be mentioned that investigations made at the hospital last year led to discovery that Landry's paralysis is due to a micrococcus.

## Correspondence.

### The Birth and Origin of Syphilis.

Baltimore, Jan. 28, 1904.

*To the Editor:*—I was surprised to find in The Journal, January 9, the following statement by Dr. Knott regarding "The Birth and Origin of Syphilis": "While so much mythologic lore remains connected with the origin of the great epidemic of syphilis which swept Europe at that date (the siege of Naples), it is no matter for surprise that the question of the existence of the disease in ancient times still remains a matter of dispute."

The fact is, venereal diseases embrace all periods of man's existence. It existed long before the Christian era, and all through the period of classical antiquity. It flourished in the free republics of Greece, and under the corrupt sway of the Roman emperors. The scholar should read the Fathers as authorities for the history of venereal disease, for their "Orationes Contra Gentes" especially afford much valuable material toward a knowledge of the moral condition of the nations of antiquity.

It is strange with what pertinacity and universal acceptance stories of the spontaneous birth of syphilis remain in the mind of man. Astruc and Gutanner put forth that childish fiction of the origin of syphilis being in the cohabitation of Columbus' men with the Indian maidens; but they forgot to tell us where the maidens contracted the disease. Hensler made every exertion to dissipate this puerile and unscientific tale, but so strong is the love for the romantic in our nature that his efforts were for a long time fruitless.

P. G. Klein[1] shows from annals of Malabar that long before the discovery of the West Indies venereal disease was known in the East Indies, for the Malabar physicians, Sangarasiar and Alessianambi, who lived more than nine hundred years ago, and other physicians before them, make mention of the disease and its cure by mercury. Dr. Wizman[2] made the disease arise in the second century in Dacia, which at that date was transformed into a Roman colony and had to welcome the licentious Roman soldiery. The excesses of these colonists, in a strange climate, and seconded by a combination of circumstances favorable to epidemic sickness, produced the disease, he said. Accordingly Wizman, as also Sprengel and Choulant, and, to some extent, Gruner, who considered the Moors to be the parents of the venereal disease, may be regarded as taking up an intermediate position between the two extreme views as were then held, i. e., the disease as a new one and as an ancient affection.

It is impossible in any limited space to give a chronologic account of the Venus cult of the people of antiquity, for it existed everywhere in the east under varying forms and names.[3]

It was at Babylon that the cult of Venus originated as Mylitta worship, spread over the inland parts to Mesopotamia as the Sabean religion, and was passed on by the Phoenicians to the seaboard people as Astarte—worship. During this period filth and lust prevailed, and is the constant complaint of the writers of the day. Juvenal, for instance (Satir 1, 104): *Mesopotameni homines effrenatal libidinis sunt in utroque sexu, ut Salustius meminit*—(The inhabitants of Mesopotamia are people of unbridled lustfulness in either sex, as Sallust records). The worship of Bacchus, and with it the phallic ritual, was transplanted to Greece and India. To explain the occasion of this introduction there is a legend related which certainly gives us an account of genital disease. It is given by Natalis Comes.[4] The author borrowed the legend from Periamder. It is also found in the *Scholiast* to Aristophanes; Acharn. 1: "There were phallic rites, too, established in honor of Dionysus (these were observed among the Athenians; for it was at Athens that the far-famed Pegasus first established the worship of Eleutherian Bacchus), at which men chanted hymns telling how the gods freed the Athenians from a plague, and how he was given of many good gifts to mortals." The story relates that Pegasus brought the images of Dionysus from Eleutheria, a city of Boeotia, to the land of Attica; but the Athenians slighted the god, and did not, as was their wont, receive him with a procession. "Wherefore the god was wroth, and afflicted the men's private parts with a disease that was most grievous to them." Sciopplus relates the same story in his edition of the Priapeia, and adds: "*Fuit autem morbus ille quem hodie gallicum vocamus*"—(but it was the disease which we nowadays call the French disease—syphilis). Almost the same trouble fell on the men of Lampsacus when the women began the cult of the worship of Priapus; "so they prayed to the gods to help them, and after some interval of time had elapsed (mark this careful noting of the elapse of a few days) a most grievous disease of the private parts attacked the men of Lampsacus.[5] William Lee Howard, M.D.

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[1] De Morbi Venerei Curatione in India Usitata, Copenhagen, 1795.

[2] On Venereal Disease in the Provinces of European Turkey. In Russian Comp. for Nat. and Med. Sci., vol. I; Riga and Leipsic, 1815; large 8 vo., p. 230.

[3] Herodotus, bk. 1, ch. 105; Homer, hymn ix, 1; Ruhnken, Epist. Crit. 1, p. 51; Heyne, Antiquarische Aufs. 1, p. 135.

[4] Mythologiae, Sive Explicationis Tabularium Libri x; Frankfort, 1588, 8 vo., p. 498.

## Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

### WHY ARE SCIENTISTS POOR WRITERS?

San Francisco, Jan. 31, 1904.

*To the Editor:*—Your editorial Jan. 9, 1904, discussing why scientists are poor writers, aroused my spirit of refutation, because I think your point is not well taken. I am like the man who can neither provide nor prepare a good meal, but who can enjoy it when it is set before him; I am neither a scientist nor a good writer, but I can appreciate a good article. It all depends on the viewpoint. No doubt the scientist believes himself a good writer; it is the non-scientist who thinks he is not. The scientist loves to indulge in technicalities, precision and prolixity, while the less scientific man thinks them prosy and pedantic. The scientist scorns to reduce his style to the popular taste, while the popular writer "stoops to conquer." The scientist either loses himself in the mass of details and citations of authorities and statistics, thus putting his readers in the position of the person "looking for a needle in the haystack," or he so overwhelms them with facts that they feel as if they were wrestling with the effects of a banquet. We do not "see ourselves as others see us," and it therefore takes a non-scientific man to criticise a scientist and a scientist to squash his critic; that is your opportunity, and I presume you will make the most of it. E. G.

Answer.—Our correspondent's first sentence suggests that he intends refutation, what follows is instead confirmation. He has digressed from the subject and discussed the reader. We agree that a reader who is familiar with a subject, especially if he be himself a worker along that particular line of research, will understand, enjoy, and even approve a poorly written article, while one who is yet to be more than superficially interested in the subject will give it up as involving unnecessary and vexatious mental labor. Our correspondent uses the word "popular." By no means do we mean that an article should be popularized. That would be an insult to medical men. The physician of to-day must be able to understand the scientific terms that are almost daily being added to our vocabulary. An article may be full of hemolysis, amboceptors and agglutinins and yet be well written. Our correspondent should not fall into the error of the misuse of the word "scientific" and class articles as either "scientific" or "popular." It is a common error. We not infrequently are compelled to refuse publication to an article which contains valuable facts, but which is weighed down with so many imperfections as to discourage one—as does the porcupine—from closer investigation.

### LISBON INTERNATIONAL CONGRESS.

Michigan, Feb. 2, 1904.

*To the Editor:*—Will you let me know through The Journal the exact date of the International Medical Congress at Lisbon, and also when and how the delegates from the United States are appointed? A. E. G.

Answer.—The exact date has not been settled on so far as we know, except that it is to be in 1906. Neither have the regulations governing membership been issued. See The Journal, January 30, p. 320.

### TRAINING SCHOOL FOR MALE NURSES.

Dr. E. L. Mortimer, Baltimore, answering the query in The Journal January 30, says there is a training school for male nurses connected with Bellevue Hospital, New York City. The "Superintendent of Male Nursing School" should be addressed at 431 E. 26th street by any one interested.

## Marriages.

J. A. Bussell, M.D., to Miss Mary Coffee, both of Rochelle, Ga., January 20.

Charles Ulmer, M.D., to Miss Lora Angell, both of Bucyrus, Ohio, February 3.

Robert Bailey Nelson, M.D., to Miss Frances Hurt, both of Jackson, Tenn., January 27.

James Sterritt Caldwell, M.D., to Miss Estelle M. Riley, both of Cincinnati, January 28.

Joseph A. White, M.D., Dumas, Ark., to Miss Fanny Roberts of Pine Bluff, Ark., January 27.

A. Buford Green, M.D., to Miss Ida Elizabeth Vernon, both of Cartersville, Ga., January 27.

Wyllys R. Hodges, M.D., Baltimore, to Miss Mary E. Kline, at Montgomery, Pa., January 21.

Arthur Weber, M.D., New Orleans, to Miss Elizabeth Patterson of Smithville, Mo., January 27.

Samuel M. Worley, M.D., St. Augustine, Fla., to Miss Lizzie Belle Pressley of Elberton, Ga., January 18.

Herbert William Landon, M.D., Lansing, Mich., to Miss Dorothy Sterling of Monroe, Mich., February 6.

Frederick Clifton Moor, M.D., Tallahassee, Fla., to Miss Sara Margaret Howell of Washington, D. C., January 27.

## Deaths.

John Herbert Sangster, M.D. Toronto University, 1864, of Port Perry, Ont., died suddenly of heart disease in Toronto, January 27, aged 72. He was a notable figure in the medical life of Ontario. He was prominent both as an educator and as a practitioner. He was principal of the Toronto Normal School from 1866 to 1871, at the same time being professor of chemistry and botany in the old Dr. Rolph's School of Medicine, which subsequently became the Medical Faculty of Victoria University, but which is now defunct. On retiring from this principalship he removed to Chicago, but after a brief residence there, returned to Canada and began the active practice of medicine at Port Perry. In 1894 he was elected a member of the Ontario Medical Council.

Edwin Barnes, M.D. Albany (N. Y.) Medical College, 1865, a member of the American Medical Association, died at his home in Pleasant Plains, N. Y., January 22, aged 59, from pneumonia followed by acute indigestion, lasting two weeks. Dr. Barnes left his medical studies at Albany Medical College to join the Army, and served in the Department of the Cumberland of West Virginia, and of the East. He had been president of the Dutchess County Medical Society, and vice-president of the New York Medical Association, and at the time of his death was consulting physician and surgeon of Vassar Hospital, Poughkeepsie.

Harry Scott Vernon, M.D. Rush Medical College, Chicago, 1900, formerly house surgeon at the Chicago Policlinic, and health officer of Lewiston, Minn., a member of the American Medical Association, died at his home in Rushford, Minn., February 1, from pneumonia, after an illness of one day.

James W. Gordon, M.D. New York University, 1889, a member of the Bridgeport (Conn.) Medical Society, Fairfield County Medical Society and Connecticut Medical Society, died at his home in Sandy Hook, Conn., January 26, from heart disease, after a long illness, aged 41.

Brainerd Leaman, M.D. Jefferson Medical College, Philadelphia, 1864, a member of the American Medical Association; surgeon during the Civil War, and ex-president of the Lancaster County Medical Society, died at his home in Leaman Place, Pa., January 28, aged 62.

Moses W. Merryman, M.D. University of Maryland, Baltimore, 1850, of Baltimore County, Md., but for seven years a resident of Atlantic City, N. J., died at his home in that place, January 25, from cerebral hemorrhage, after an illness of one day, aged 76.

William H. Gale, M.D. Jefferson Medical College, Philadelphia, 1850, a member of the Maryland legislature in 1885, and for several terms register of wills of Somerset County, died suddenly at his home in Princess Anne, February 3, from acute indigestion, aged 76.

Robert C. Sharp, M.D. Jefferson Medical College, Pennsylvania, 1881, shot himself through the heart and died January

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[5] Servius on Virgil, Geog. iv, p. 111.

20, while despondent on account of Bright's disease, at his home his home in What Cheer, Iowa, January 25.

**Henry Benson Phillips, M.D.** Vanderbilt University, Nashville, 1893, of Benson, La., died at the Sanitarium, Shreveport, La., February 3, from pneumonia following laryngitis, after an illness of ten days, aged 35.

**David Krausgill, M.D.** Medical College of Ohio, Cincinnati, 1879, a member of the American Medical Association, died at his home in Chesterton, Ind., January 23, from pernicious anemia, aged 56.

**John S. Yard, M.D.** University of Pennsylvania, 1886, who forsook medicine for architecture, died at his home in Trenton, N. J., January 23, from septicemia resulting from a retro-ocular abscess.

**Thomas E. Wakefield, M.D.** Castleton (Vt.) Medical College, 1843, president of the Rutland County Medical and Surgical Society in 1883, died at his home in Fairhaven, Vt., January 25, aged 82.

**Robert Lambert, M.D.** Faculty of Medicine of Queen's University, and Royal College of Physicians and Surgeons, Kingston, Ont., 1859, died at his home in Windsor, Ont., January 22, aged 82.

**Needham M. Wilson, M.D.** Jefferson Medical College, Philadelphia, 1866, died at his home in Philadelphia, January 19, three months after a fall, in which he sustained severe injuries, aged 67.

**J. Varnum Mott, M.D.** College of Physicians and Surgeons, New York, 1872, who retired from practice ten years ago, died suddenly from heart disease at his home in Boston, January 23, aged 53.

**Frank E. Luman, M.D.** Bellevue Hospital Medical College, New York, 1892, died at his home in Colusa, Cal., January 17, from the effects of an overdose of morphin, self-administered, aged 36.

**Robert Hanna, M.D.** Jefferson Medical College, Philadelphia, of Greenock, Pa., was run over and killed by a train on the Baltimore and Ohio Railroad near Guffey Station, January 20, aged 32.

**Hermann Lewek, M.D.**, surgeon of the Hamburg-American steamer *Patricia*, died January 20, a day after the arrival of the steamer in New York, from pneumonia, in the German Hospital.

**Byron Whitford, M.D.** New York University, 1878, some-time president and treasurer of the Providence (R. I.) Medical Association, died at his home in Providence, Feb. 8, 1903, aged 53.

**Fred A. Steinmeyer, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1870, died at his home in Bonaparte, Iowa, January 27, from the effects of a fracture of the hip, aged 59.

**Charles S. Sargent, M.D.** Hahnemann Medical College, Philadelphia, 1881, died at his home in Stockton, Cal., January 29, from typhoid fever, after an illness of ten weeks, aged 43.

**Harrison L. Baird, M.D.** Vanderbilt University, Nashville, Tenn., 1890, died at his home in Asheville, N. C., January 22, from Bright's disease, after a protracted illness, aged 37.

**John Hannahan, M.D.** Kentucky School of Medicine, Louisville, 1893, was found dead in his apartments in Elwood, Ind., January 25, presumably from heart disease, aged 45.

**Francis Rudderow, M.D.** University of Pennsylvania, Philadelphia, 1887, was recently found dead on the stairway of his home in Philadelphia, after a long illness, aged 42.

**Walter D. Rexford, M.D.** Baltimore Medical College, 1898, of Deming, N. M., died at Las Vegas, N. M., January 16, from consumption, after a protracted illness, aged 30.

**Andrew B. Butler, M.D.** Northwestern Medical College of St. Joseph, Mo., 1881, died at his home in Madera, Cal., January 15, from pneumonia, after a brief illness, aged 55.

**David S. Griffith, M.D.** Jefferson Medical College, Philadelphia, 1863, died at his home in Florida Mesa, near Durango, Colo., January 21, from heart disease, aged 63.

**John R. Barnett, M.D.** Medical College of the State of South Carolina, Charleston, 1850, died at his home in Warren, Ark., two days after a fall, on January 24, aged 74.

**Albert A. Beane, M.D.** State University of Iowa, Iowa City, 1891, a member of the American Medical Association, died at his home in What-Cheer, Iowa, January 25.

**Alban Spooner, M.D.** Hahnemann Medical College, Philadelphia, died at his home in Beverly, N. J., January 18, from pneumonia, after a short illness, aged 26.

**Robert Faskett Bennett, M.D.** Rush Medical College, Chicago, 1853, of Elgin, Ill., died at the Illinois Northern Hospital for the Insane, in that city, January 24, aged 77.

**Henry W. Dudley, M.D.** New York University, 1877, died at his home in Hillsboro, Texas, January 19, from consumption, after an illness of several years, aged 49.

**E. Vernon Brower, M.D.** Physio-Medical College of Indiana, Indianapolis, 1897, of Richmond, Ind., died at Boston, Ind., from tuberculosis, January 29, aged 27.

**William H. H. Neville, M.D.** Hahnemann Medical College, Philadelphia, 1865, of Philadelphia, died suddenly in a street car in that city, January 22, aged 64.

**Robert G. Bryans, M.D.** Medical College of Georgia, Augusta, 1878, a member of the American Medical Association, died recently at his home in Jackson, Ga.

**Holly M. Mills, M.D.** Nebraska, the pioneer physician of Polk County, Neb., died at his home in Osceola, January 28, from cerebral hemorrhage, aged 69.

**Albert L. Dunn, M.D.** Eclectic Medical College, Philadelphia, 1853, died at his home in Oklahoma City, Okla., from cerebral hemorrhage, January 23, aged 76.

**Nels J. Lund, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1870, died in his office in Marinette, Wis., January 22, from apoplexy, aged 74.

**Jacob T. Mills, M.D.** Starling Medical College, Columbus, Ohio, 1872, died at his home in Columbus, January 31, after an illness of two years, aged 65.

**Phoebe Jane Babcock Wait, M.D.** New York Medical College and Hospital for Women, 1871, died at her home in New York City, January 30, aged 65.

**Jacob Slagle, M.D.** Miami Medical College, Cincinnati, 1877, died at his home in Troy, Ohio, January 29, from injuries sustained in a street-car accident.

**John D. O'Connor, M.D.** Rush Medical College, Chicago, 1899, died at his home in Chicago, January 30, from meningitis, after an illness of ten days, aged 29.

**William E. Moore, M.D.** Northwestern Medical College, St. Joseph, Mo., 1885, died at his home in Reserve, Kan., January 22, from consumption, aged 64.

**Carroll S. Parker, M.D.** University of Nashville, 1870, died at his home in Gibson, Tenn., January 19, from pneumonia, after a short illness, aged 55.

**Samuel Starr, M.D.** Hahnemann Medical College, Philadelphia, 1869, died at his home in West Chester, Pa., January 22, from heart disease, aged 63.

**Donald W. Barton, M.D.** Medical College of the State of South Carolina, Charleston, 1858, died suddenly at his home in Bamberg, S. C., January 20.

**John J. Brady, M.D.** Bellevue Hospital Medical College, New York, 1891, of Detroit, died at Deckerville, Mich., January 23, from heart disease, aged 37.

**Bennett H. Van Kirk, M.D.** Jefferson Medical College, Philadelphia, 1869, died at his home in West Newton, Pa., January 24, after a lingering illness.

**Henry M. Rector, M.D.** Missouri Medical College, St. Louis, 1893, died at his home in Hot Springs, Ark., January 22, after a long illness, aged 47.

**James H. Kyser, M.D.** Tulane University, New Orleans, 1897, died in Arizona, January 27, from consumption, after a prolonged illness, aged 33.

**Joseph J. Mayfield, M.D.**, 1850, of Bruceville, Ind., who retired from practice in 1880, died at his home in that place, January 25, aged 83.

**George Thompson, M.D.** Eclectic Medical College of the city of New York, 1881, died at his home in New York City, February 2, aged 87.

**John D. Henry, M.D.** Bellevue Hospital Medical College, New York, 1870, of Hedrick, Iowa, died in California, January 27, after a long illness.

**Samuel H. Huntington, M.D.** Yale University Medical Department, New Haven, Conn., 1876, died at his home in Wilton, Conn., January 22.

**Charles E. White, M.D.** Cleveland Homeopathic Medical College, died from diphtheria at his home in Cleveland, January 23, aged 30.

**William H. Hening, M.D.** Jefferson Medical College, Philadelphia, 1853, died at his home in Jefferson, Va., January 23, aged 74.

**Frederick W. Vandersloot**, M.D. University of Maryland, Baltimore, 1855, died at his home in York, Pa., January 13, aged 70.

**Dennis N. Conner**, M.D. University of Pennsylvania, Philadelphia, 1867, died at his home in Philadelphia, January 22, aged 59.

**George G. Jones**, M.D. University of Buffalo, 1886, died at his home in Geneseo, N. Y., January 25, after an illness of a year, aged 48.

**Charles H. Niman**, M.D. Bellevue Hospital Medical College, New York, 1880, died at his home in Elkhart, Ind., January 14, aged 40.

**Leander Blackwell**, M.D. Missouri Medical College, St. Louis, 1894, died recently at his home in South Windham, Conn., aged 36.

**Asa Whitford Brown**, M.D. Homeopathic Hospital College, Cleveland, 1853, died at his home in Providence, R. I., June 1, 1903.

**M. Marcus**, M.D. Medico-Chirurgical College, Philadelphia, died recently from pneumonia at his home in that city, aged 26.

**W. Stuart Hancock**, M.D., of Wytheville, Va., died at Honolulu, Hawaii, January 1, from consumption, after a long illness.

**Virgil M. D. Marcy**, M.D. University of Maryland, Baltimore, 1847, died at his home in Cape May, N. J., January 21, aged 81.

**Thomas F. Cawley**, M.D. Bellevue Hospital Medical College, New York, died at his home in Saylorsburg, Pa., January 28.

**P. H. Woolsey**, M.D., a well-known physician of Orange, Sullivan and Delaware counties, N. Y., died January 12, aged 80.

**Joseph A. Townsend**, M.D. Baltimore University School of Medicine, 1892, died recently at his home in Lake City, Fla.

**Soloman P. Stoddard**, M.D. University of Heidelberg, Germany, 1863, died at his home in Indianapolis, January 27.

**Walter Y. Winton**, M.D. Barnes Medical College, St. Louis, 1898, died at his home in Kirbyville, Texas, Dec. 11, 1903.

**Arthur C. Peirce**, M.D. University of Maryland, Baltimore, 1883, died at his home in Riverside, R. I., July 26, 1903.

**Richard J. Grigson**, M.D. Iowa Medical College, Keokuk, 1858, died at his home in Augusta, Ill., January 16, aged 73.

**Gaius H. Nash**, M.D. New York University, 1864, died at his home in New York City, January 23, aged 78.

**Arthur H. Ashley**, M.D., died at his home in Fruit Hill, S. C., January 23, after an illness of one week, aged 40.

**W. Cortland Stockton**, M.D., was found dead at his home in Bluffton, Ind., from dropsy, January 24.

**George Cook**, M.D. Victoria, 1864, died at his home in Toronto, Ont., Dec. 31, 1903, aged 62.

**James Carroll Jacobs**, M.D. Rhode Island, died at his home in Providence, Jan. 24, 1903, aged 69.

**O. T. Watkins**, M.D., died at his home in La Crosse, Ark., January 29, aged more than 80.

**Amos Ray Collins**, M.D. New York University, 1861, died in Taunton, Mass., Jan. 25, 1903.

**William L. Huston**, M.D., was burned to death in his home at Marengo, Iowa, January 30.

**Peter Broardt**, M.D. New York, died at his home in Buffalo, N. Y., January 21, aged 70.

**William H. Woods**, M.D., died recently at his home in Owatonna, Minn., aged 80.

**U. M. Humble**, M.D. Illinois, died at his home in Iuka, Ill., in January, aged 73.

**Harry J. Maynard**, M.D., of Cheyenne, Wyo., died in Denver, January 26.

**John M. Owensby**, M.D., died at his home in Denison, Texas, January 30.

### Deaths Abroad.

**H. F. A. Peypers**, M.D., died at Amsterdam, January 15. He founded eight years ago the well-known international journal *Janus*, devoted to the interests of the history of medicine and medical geography.

**J. Seegen**, M.D., noted for his research on diabetes, glycogen formation and elimination of nitrogen, died at Vienna, January 24, aged 81. He first settled at Carlsbad and has always ranked among the leading balneologists of the day. His views in regard to the sugar formed in the liver as the exclusive source of mechanical energy and heat have been combated by Pflüger. Among the problems which he was studying up to the time of his death are the absence of glycogen in the liver after death by suffocation, and also the continuance of the glycogen formation in excised scraps of liver tissue kept in alcohol, which arrests all fermentative and cellular action.

**P. Dettweiler**, M.D., died at Kronberg, January 13, aged 66. He is considered the father of the modern physico-dietetic methods of treating tuberculosis. He was a military surgeon for a few years until his lungs became affected, after which he attached himself to Brehmer at Gorbersdorf, and dedicated his entire life to the study of tuberculosis. He introduced the method of treating consumption by reclining in the open air, and published a number of works on tuberculosis. In 1876 he founded the sanatorium at Falkenstein, which has been the model for so many since. He conducted it personally until 1895. To him the world owes in large measure the revival of the belief that tuberculosis is curable.

## Book Notices.

LA NEVRASTENIA. Con proemio del Prof. Clodomiro Bonfigli, Direttore del Manicomio di Roma. By Dott. Luigi Cappelletti, Vice-Direttore del Manicomio Provinciale di Ferrara. Milano: Ulrico Hoepli. 1904.

The Hoepli manuals comprise a large number of valuable little compends, they are often more than mere compilations, and many are written by men of wide reading, more or less authorities in the branches discussed. Among these we may include this little volume, and the preface, by Professor Bonfigli, fairly states its standing. The author has reviewed the subject thoroughly, and gives us one of the best brief general epitomes of the literature that we have in any language. It, of course, is available only to Italian readers at present. One of the special features of the book is an extensive bibliography of nearly 1,200 titles in which nearly all the important memoirs and works on the subject are included. There are many omissions in the English and American literature, but the more important articles have generally been included. Neurasthenia has been called an American disease, but one has only to look at this list of European literature on the subject to see that it is about as much a matter of serious consideration in almost every European country as it is here. In fact, the more serious forms are probably fully as common there, if not more so, than among us. As might be expected, Beard is the author most extensively quoted, though others such as Bouveret, De Fleury, De Giovanni, Charcot, Krafft-Ebing, Morselli and a few others are not much behind.

A NARRATIVE OF MEDICINE IN AMERICA. By James Gregory Mumford, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital. Cloth. Pp. 508. Price, $3.00. Philadelphia and London: J. P. Lippincott Co. 1903.

We can not hear *too* much about the hardy, practical, medical pioneers of our country. While each one who attempts to give us a biographical sketch of the founders of American medicine must necessarily repeat much that is already known; still each will find something new to say, and will present the old in a different manner and from a different point of view. We are, therefore, glad to welcome another book on the American medical pioneer and on medicine during pioneer days. The author does not assert that he gives a complete list of those of our predecessors whose names are to be found in the early annals, but he takes a few of the conspicuous ones in each era to illustrate, as it were, the conditions of that particular time. The narrative stops at the middle of the last century. A chapter is devoted to the discovery of ether, with an extremely fair statement regarding that unhappy controversy. The chapter on the founding of the American Medical Association is an interesting and instructive one; in it the author gives some inside history that is not generally known. The book is a readable one, and interesting as well as instructive. We have but one fault to find, and that is the almost universal use of the word "doctor." In the very first sentence we read: "The English brought their doctors with them," although we are not told whether this means doctors of divinity or some other kind. We have doctors of music, doctors of dentistry, doctors of divinity, doctors of law, etc. It is bearable to have the word occur occasionally, but our author seems to be in love with it and uses it so much that it mars the reading. In spite of this criticism, we can only repeat that the book is not only readable, but a valuable addition to the early medical history of our country.

Lesson on Massage. By Margaret D. Palmer, Masseuse and Manager of the Massage Department of the London Hospital. Second Edition. Cloth. Pp. 261. Price, $2.50. New York: William Wood & Co. 1904.

In this second edition there have been some minor improvements and the addition of chapters on the Nauheim treatment and on bandaging. The book is intended for the first study by the masseur or nurse, and is a very good book for the physician to recommend for this purpose. The summary of anatomy is complete and well selected and arranged.

## State Boards of Registration.

### COMING EXAMINATIONS.

Regular Board of Medical Examiners for Georgia, Atlanta, March 3. Secretary, I. H. Goss, M.D., Athens.

Regent of the State Board of Medical Examiners of New Hampshire, State House, Concord, March 1-2. Regent, Channing Folsom, M.D., Concord.

Board of Registration in Medicine for Massachusetts, State House, Boston, March 8-9. Secretary, Edwin B. Harvey, M.D., State House, Boston.

Committees of Examination of Connecticut, New Haven, Hartford and Waterbury, March 8. Secretary, Prof. C. A. Lindsly, New Haven.

Maine Board of Registration of Medicine, Portland, March 23. Secretary, A. K. P. Meserve, M.D., Portland.

Maine Report.—Dr. A. K. P. Meserve, secretary of the Maine Board of Registration of Medicine, reports the examination, partly oral and partly written, held at Augusta, Nov. 11, 1903, as follows: Subjects, 9; questions, 90; percentage required, 75; candidates, 18, all of whom passed. The candidates are summarized below by colleges, the year of graduation and grade of each being given.

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Kentucky School of Medicine | (1903) | 82 |
| University of Michigan | (1898) | 93 |
| Harvard University | (1901) | 94 3/7 |
| Laval University (Quebec) | (1903) | 83 6/7 |
| Boston University Medical School | (1903) | 90 3/7 |
| University of Maryland | (1903) | 84 6/7 |
| Columbia University | (1896) | 90 2/7 |
| Chattanooga Medical School | (1903) | 78 4/7 |
| Medical School of Maine | (1901) | 88 4/7 |
| McGill University | (1903) | 91 3/7, 85 4/7, 85 3/7 |
| Univ. of Pennsylvania | (1903)<br>(1901)<br>(1887) | 90 1/7<br>88.2<br>90 2/7 |
| Laval Univ. (Montreal) | (1903)<br>(1901)<br>(1899) | 88 4/7<br>90 2/7<br>86.9 |

Rhode Island Report.—Dr. G. T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 7 to 8, 1904, as follows: Subjects, 11; questions, 70; percentage required, 75; candidates, 12; passed, 11; failed, 1.

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Bowdoin College | (1903) | 76.4 |
| College of Physicians and Surgeons, Baltimore | (1903) | 78.7 |
| College of Physicians and Surgeons, New York | (1903) | 75.7 |
| Dartmouth College | (1896) | 89.1 |
| Georgetown University | (1903) | 88.2 |
| Harvard University | (1901) | 93.6 |
| Manitoba Medical College | (1891) | 79.4 |
| Medico-Chirurgical College, Pennsylvania | (1898) | 76.5 |
| Tufts College, Boston | (1896) | 76.6 |
| University of Maryland | (1892) | 84.0 |
| University of Vermont | (1903) | 85.4 |

FAILED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Baltimore | (1902) | 70.0 |

Minnesota Report.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports a written examination held at St. Paul, Jan. 5 to 7, 1904, as follows: Subjects, 12; questions, 95; percentage required, 75; candidates, 27; passed, 24; failed, 3.

PASSED.

Medical Department of the University of Minnesota, (1902) 78.3†, (1899) 77.6*.
Johns Hopkins Medical School, (1902) 83.9.
Medical Department of the University of Iowa, (1891) 78.3†, (1902) 77.6.
Rush Medical College, (1903) 78.4, 87.1, (1902) 82.1, (1900) 87.3.
Med. Dept. of the University of Illinois, (1903) 76.4†, 75.5*, 77.9*, 77.6, (1887) 82.5.
Queen's University, (1899) 79.6, (1901) 84.6.
Hamline University, (1903) 76.7, 76*.
Boston University, (1901) 84.3.
Hahnemann Medical College, (1902) 79.2*.
Northwestern University Medical School, (1901) 87.3.
Barnes Medical College, (1900) 76.9.
Trinity University, (1900) 83.5.
Imperial Alexander's University, (1896) 83.3.

FAILED.

Hamline University, (1903) 65.8*, 67.1.
College of Physicians and Surgeons, Keokuk, (1884) 56.

* Second examination. † Third examination.

The following questions were asked:

DISEASES OF WOMEN.

1. Describe Alexander's operation and state under what condition it is indicated. 2. Acute oöphoritis, etiology, symptomatology and treatment. 3. Infectious vaginitis, varieties and causes of each, symptomatology and treatment. 4. Rectovaginal fistula, etiology, symptomatology, diagnosis and treatment. 5. Curettage of the uterus, give indications for and describe operation.

DISEASES OF CHILDREN.

1. Bronchopneumonia, etiology, pathology, symptomatology, diagnosis and treatment. 2. Rachitis, etiology, symptomatology, pathology, prognosis and treatment. 3. Chorea, etiology, symptomatology, prognosis and treatment. 4. Influenza, etiology, pathology, symptomatology, diagnosis, prognosis and treatment. 5. Chronic constipation of infancy, causes, prognosis and treatment.

HISTOLOGY AND PATHOLOGY.

1. Give a histologic description of the mammary gland. 2. Give a histologic description of the ovary. 3. Define and give classification of glands. 4. What morbid changes take place in the kidney in tubercular nephritis? 5. Give the pathology of chronic arteritis. 6. Give the pathology of empyema. 7. Describe fatty and amyloid degeneration. 8. Name some of the animal parasites found in man. 9. Give the clinical significance of leukocytosis, and the normal leukocyte count in the male and female. 10. Describe fully how you would prepare, stain and examine sputum for the presence of tubercle bacilli.

OBSTETRICS.

1. What bones enter into the formation of the pelvis? Give diameters of the superior strait of the pelvis. 2. What are the different positions of the head in vertex presentation? 3. What if any other presentation of the head is there? How would you manage these cases if conducting them? 4. Eclampsia? Causes? Treatment? 5. Give treatment for prolapsus funis. 6. How do you conduct third stage of labor? 7. What conditions would cause you to advise (*a*) embryotomy? (*b*) Cesarean section? (*c*) Premature labor? 8. What antiseptic precautions do you use in conducting a case of labor in so far as it affects the welfare of (*a*) mother? (*b*) Of child?

ANATOMY.

1. Describe the femur. 2. Name the bones which form the wrist joint. 3. Describe the sartorius muscle, giving origin and insertion. 4. Describe the aorta, naming its divisions. 5. Outline the portal circulation. 6. Describe the solar plexus. 7. Describe the thoracic duct. 8. From what is the serous investment of the stomach derived? 9. Into what parts is the brain divided? 10. Give general description of the tongue.

THEORY AND PRACTICE OF MEDICINE.

1. Give general classification of anemia, and give causes. 2. Define tachycardia and give causes. 3. Give definition and prognosis of rheumatoid arthritis. 4. Give prognosis and treatment of hemoptysis. 5. Give symptoms and treatment of Basedow's disease. 6. Briefly outline the differential diagnosis between typhoid fever and acute miliary tuberculosis. 7. Give the clinical varieties of dysentery and the different ways in which it occurs. 8. Name three common factors in the production of ascites, and give five abdominal conditions from which it must be differentiated. 9. Give varieties and treatment of round worms. 10. Give causes of intestinal obstruction.

SURGERY.

1. Give diagnosis and treatment of renal calculus. 2. Describe a tracheotomy. 3. Give technic of ligation of common carotid. 4. Describe operation for hare-lip. 5. Give technic of skin grafting. 6. Give treatment for necrosis in shaft of bone. 7. Give treatment for synovitis with effusion. 8. Give treatment for fracture of the body of a vertebra. 9. Diagnosis and treatment for fracture of inferior maxillary. 10. Briefly, treatment for infections in general.

EYE AND EAR.

1. Define tinnitus aurium; amblyopia, keratitis, myopia and blepharitis. 2. Give symptoms and treatment of trachoma. 3. What is iridectomy and when is it indicated? 4. Differentiate between acute iritis and acute glaucoma. 5. Give symptoms and treatment of acute otitis media.

CHEMISTRY, URINALYSIS AND TOXICOLOGY.

1. Give symptoms and treatment of carbolic acid poisoning. 2. Define molecule, inorganic chemistry, toxicology, atom and ptomain. 3. Differentiate between fermentation and putrefaction. 4. Give a quantitative and a qualitative test for sugar in the urine. 5. What is Marsh's test for arsenic?

PHYSIOLOGY.

1. Take up, briefly and in your own way, the subject of hemoglobin and oxy-hemoglobin. 2. Explain the abnormal amount of albumin present in the urine in a case of acute desquamative nephritis, from a purely physiologic standpoint, and, in a general way, what conditions, pathologic or other, influence the amount of serum-albumin eliminated by the kidney. 3. Follow the process of reproduction after conception has taken place (omitting the previous steps of the process). 4. Tell something of white corpuscles, including their behavior under certain conditions of health and disease. 5. Does the cause of the rhythmic heart beat lie within the

heart itself, or in the central nervous system? Can you suggest any experiment tending to prove the correctness of your answer to the above question? 6. If the vagus nerves were cut what effect would this have on the frequency of the heart-beat, and why? 7. Show how the lacteals take up and dispose of their share of products of food digestion. 8. Define and classify enzymes. 9. Name and give sources of two ferments which enter into the process of food digestion. 10. What is the function of the posterior columns of the spinal cord?

### MATERIA MEDICA AND THERAPEUTICS.

1. Give the temperatures (Fahr.) respectively of a cold bath, a tepid bath, a hot bath. 2. Describe the process of peptonizing milk. 3. Name the three best hypnotics and the average adult dose of each. 4. Write a prescription for an ointment for a case of psoriasis. 5. Criticise this prescription for an adult:

℞. Hydrargyri protoiodidi........................grs. iv.
Potassii iodidi........................drachms ij.
Aquæ........................................oz. iv.

Misce et solve. Sig.: Dose, a teaspoonful in water three times a day.

6. Give the adult dose of sulphate of atropia; arsenious acid; extract of cannabis indica; nitroglycerin; acetate of lead. 7. What is the source of cantharides, the name of the official preparation for internal use and the average dose for an adult? 8. What is the active principle or principles of Fowler's solution, of paregoric, of compound cathartic pills, of compound licorice powder, of Vienna paste? 9. What is the best preparation of lead for external use? 10. Prescribe iron as a tonic in pill form for an adult.

### HOMEOPATHIC MATERIA MEDICA.

1. What in brief is the general physiologic action of aconite? 2. Give four characteristics of aconite. 3. What are the characteristic stomach symptoms of pulsatilla? 4. In what class of patients is nux vomica most applicable, and mention three general characteristics of the drug? 5. Differentiate between bell., hyos. and stram. in delirium. 6. Give five characteristics of ars. alb. 7. Differentiate between phos. rumex and bell. in coughs. 8. What are the skin symptoms of graph. mez. and petroleum? 9. Give indications for merc. bin. in throat affections. 10. Differentiate between rhus and bry. in rheumatism.

### ECLECTIC MATERIA MEDICA AND THERAPEUTICS.

1. Name some remedies to be used in treatment of frostbites; of burns, and tell how you would use them. 2. Give the symptomatology and dose of sanguinaria, ipecac, asclepias and strophanthus. 3. In a case of la grippe, what remedies would you likely find indicated and how would you use them? 4. What is the physiologic action of cascara sagrada, hydrargyrum, elaterium and baptesia; give the medicinal dose of each? 5. Give conditions calling for use of iron, and name some of the best iron compounds. 6. Give use and dose of saw almetto, buchu, and *Rhus aromatica*. 7. Give dose and use of *Cratægus oxycanthus;* when would you combine it with apocynum? Write a prescription for such a combination. 8 What remedies would you need in treating a case of delirium tremens? Give conditions in which you would use each, and the dose. 9. What is the matter with the following:

℞. Hydarg. chl. mite........................gr. iii.
Calcium sulphid........................gr. v.
Sac. las........................gr. xxiv.

M. Ft. chart. No. 12. Sig.: Take powder every two hours.

℞. Potassium iodid........................gr. iii.
Quinin........................gr. i.
Syr. aurant........................ʒss.
Aqua ad........................℥ii.

M. Sig.: Take as directed.

10. What is the dose of trional, strychnia sulph., belladonna, aconite, lobelia, nitroglycerin?

### MEDICAL JURISPRUDENCE.

1. What is the postmortem evidence of live birth? 2. How soon does a body exposed to the air in summer begin to decompose? 3. What is medical malpractice? 4. What are the chief physical characteristics of the fetus at the end of the third month of gestation? 5. With what conditions is acute morphia poisoning most likely to be confounded?

# Association News.

## THE ATLANTIC CITY SESSION.

### Arrangements Being Perfected—Committees are Active.

Dr. Philip Marvel, secretary of the Committee of Arrangements for the next annual session of the American Medical Association, to be held at Atlantic City, N. J., June 7-10, 1904, reports that the arrangements are assuming good form with the prospect of completeness, except in the smaller details, at a comparatively early date. The hotel bookings are already very active, and the hotel committee urges those who are desirous of first-class quarters to arrange for them without delay. The list of houses in The Journal last week contains only the few selected as headquarters for the sections. For the members who have no particular reason for selecting accommodations at any one of these hotels, there are a hundred or more of other hotels at which good accommodations may be had. Dr. Marvel will be glad to furnish any further information desired by members of the Association from time to time, when requested. The personnel of the committee and the chairmen of the subcommittee are as follows:

Dr. B. C. Pennington, chairman; Dr. J. A. Joy, treasurer; Dr. E. A. Reilly, registrar; Dr. Philip Marvel, secretary.

### CHAIRMEN OF SUBCOMMITTEES.

Dr. W. Blair Stewart, Finance.
Dr. Walter Reynolds, Halls and Meeting Places.
Dr. E. A. Reilly, Registration.
Dr. A. D. Cuskaden, Exhibits.
Dr. Theo. Senseman, Entertainments.
Dr. E. C. Chew, Bureau of Information.
Dr. Emery Marvel, Banquets.
Dr. Edward Guion, Printing.
Dr. W. E. Darnell, Hotels.
Dr. Joseph F. DeSilver, Badges, etc.
Dr. W. P. Connaway, New Membership.
Dr. J. M. Marshall, Transportation.

New members for the month of January, 1904:

### ALABAMA.

Harper, G. H., Manistee.
Wheeler, T. T., Steele.
Howell, J. R. G., Dothan.
Welch, S. W., Talladego.
Letcher, Jos. B., Shorter.
Dixon, D. P., Thomas.
Cullens, F. B., Ozark.
Rountree, W. S., Wylam.
Walker, Jos. C., Mayline.
Lathem, S. N., Blossburg.
Martin, Wm. G., Adamsville.
Stallworth, E. L., Evergreen.
Rogan, B. B., Selma.

### ARKANSAS.

Rosamond, J. H. E., Grand Lake.
Thorn, J. W., Clio.
Thomas, Philip E., Clarendon.
Morgan, Chas. M., Camden.
Jacobs, Jesse Jackson, Webb City.
Hamilton, A. J., Calmer.
Hartsell, Wm. L., Pansy.
McKenzie, A. H., Casa.
Meek, J. W., Camden.
Osborne, J. M., Wiville.
Corn, J. S., Nashville.

### CALIFORNIA.

Sharp, Jas. G., San Francisco.
Crise, David, Escondido.
Mosgrove, Anna Marie, San Francisco.
Middleton, Johnson Van Dyke, San Francisco.
Thorwick, Martha G., San Francisco.
Poore, Jas. E., Sacramento.
Eckardt, A. O., Gualala.
Oliver, H. R., San Francisco.
Bryant, Chester M., Redding.
O'Connor, Jas. H., San Francisco.
Lucas, Wm. Thos., Santa Maria.
White, David W., San Bernardino.
Gardner, Sam'l Jas., San Francisco.
Taylor, Oscar N., San Francisco.
James, J. W., Sacramento.

### COLORADO.

Peden, B. A., Manzanola.
Cooke, John M., Colorado Springs.
Neeper, Edw. R., Colorado Springs.
Roberts, Judson O., Cripple Creek.
Beck, L. H., Manitou.
Condit, H. C., Florence.
Hawes, Mary, Denver.
Nesmith, Frances M., Denver.
Harlow, Wm. P., Boulder.

### CONNECTICUT.

Day, F. L., Bridgeport.
Mulcahy, Thos. A., Hartford.
Whittemore, Edw. Lancaster, New Britain.
Mayer, Nathan, Hartford.
Wilson, Wm., Wallingford.
Rand, Richard Foster, New Haven.
Stevens, Frank W., Bridgeport.
McDonnell, Ralph A., New Haven.
Rowley, Alfred W., Hartford.
Ellis, Thos. L., Bridgeport.
Goodrich, Chas. A., Hartford.
Varno, Henry G., Thompsonville.
Tukey, F. M., Bridgeport.
Botsford, Chas. P., Hartford.
Gold, Jas. D., Bridgeport.
Hyde, F. C., Greenwich.

### FLORIDA.

Maynard, B. H., Webster.
Kinsey, Junius P., Lamont.
Weedon, L. W., Tampa.

### GEORGIA.

Barnum, R. E. L., Richland.
Adair, Robt. E., Taylorsville.
Thrash, Elmore C., Oakland.
Bomar, E. P., Ohoopee.
Clarke, L. B., Atlanta.
Kemp, A. P., Barnesville.
Jennings, W. J., Blakely.
Hunter, A. P., Tifton.
Borders, Dennis J., Calhoun.
Bell, Addison K., Madison.
Davis, Jas. P., Tennill.
Neal, Jos. W., Scotland.
Jones, Wm. T., Atlanta.
Fischer, L. C., Atlanta.
Comer, Ralph, Tignall.
Elder, Eugene B., Macon.
Bush, Oliver B., Cairo.
Roberson, G. W., Macon.
Harper, Aubrey, Wray.

### ILLINOIS.

Nichols-Schmalling, Hannah, Fulton.
Dunham, Frank, Robinson.
Tallman, E. D., Chicago.
Mann, Alban L., Elgin.
Buzik, Julius, Chicago.
Wales, R. P., Mt. Carroll.
Friedberg, S. A., Chicago.
Harmon, Henry, Chicago.
Bennett, Wm. H., Chicago.
Hall, S. B., Rock Island.
Taliaferro, Frank, Chicago.
Brown, Alice Barlow, Chicago.
Schwuchow, Walter B., Princeton.
Stowell, L. E., Williamsfield.
Pridmore, Geo. W., Industry.
Starkey, Harvey L., Junction.
Hay, E. J., Millersburg.
Palmer, Geo. T., Chicago.
Friedberg, S. A., Chicago.

### INDIANA.

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Barandy, Oscar von, So. Bend.
Mansfield, Thos. J., Muncie.
Thompson, Wilson H., Matthews.
Zaleski, Jos. P., So. Bend.
Giltner, H. A., Lexington.
Pettigrew, Chas. D., Houston.
Beard, E. R., Liberty.
Whetsell, Leon E., Bloomington.
McCracken, A. J., Richmond.

### IOWA.

Leffler, Edw. G., La Porte City.
Dunkelberg, E. E., Waterloo.
Thompson, G. B., Winthrop.
Smith, Ralph, Red Oak.
Sala, Ono P., Davenport.
Brunig, H., Mineola.
Sigworth, Jr., H. W., Anamosa.
Boice, C. A., Washington.
Washburn, T. R., Donnellson.
Greensfelder, Louis A., Chicago.
Stoecks, Wm. A., Davenport.
DeGraff, Elmer B., Davenport.
Noe, Chas. T., Amana.
Boes, F., Davenport.
Holtsclaw, Z. T., Larchwood.
Johnston, E. N., Fredericksburg.
Amdor, Frank P., Carbon.
Bowen, Will, Ft. Dodge.

### KANSAS.

Peers, T. W., Topeka.
Relihan, D. W., Smith Center.

### KENTUCKY.

Ward, J. Scott, Pineville.
Evans, Will K., Pineville.
Calvert, J. H., Milton.
Hiestand, C. V., Merrimac.
Jasper, Galen E., Waterloo.
Heath, Chas. L., Lindsay.

Wallingford, J. Stuart, Paris.
Thornton, Geo. G., Lebanon.
Bloch, Leo, Louisville.
Jones, L. O., Hebbardsville.
Paschall, A. F., Crossland.
Flack, T. D., Louisville.
Clark, H. C., Falmouth.

### LOUISIANA.

Kellogg, Wm. A., Innis.
Stewart, G. McG., Laurel Hill.
Hunter, Edwin W., Gallion.
Abramson, Louis, Shreveport.
Botts, Wm. F., Shreveport.
Mobley, Jesse Woods, Allentown.

### MAINE.

Cummings, E. S., Lewiston.
Lamb, Frank W., Portland.
Dyson, Wallace W., Portland.
Lewis, Philip P., Gorham.
Bryant, Bertram L., Bangor.

### MARYLAND.

Ruhrah, John, Baltimore.
Hartman, Jacob H., Baltimore.
Thomas, Richard H., Baltimore.
Hemmeter, John C., Baltimore.
Cathell, D. W., Baltimore.
Larned, Chas. W., Baltimore.
Riely, Compton, Baltimore.
McCormick, Thos. P., Baltimore.
Davis, Jr., John Staige, Baltimore.
Whitney, E. L., Baltimore.

### MASSACHUSETTS.

Bartol, John W., Boston.
Blanchard, R. H., Pittsfield.
Greene, Thos. F., Roxbury.
Wilbur, Sarah M., Springfield.
Harris, C. E., Hyannis.
Calkins, Irving R., Springfield.
Rollins, Edwin T., Boston.
Taylor, Geo. L., Holyoke.
McKenna, Francis P., Boston.
Marsh, James E., Springfield.
Goodrich, Harriet R., Salem.
Jones, Mary Scott, Boston.
O'Connor, J. J., Holyoke.
Simpson, James E., Salem.
Griffin, Arthur G., Malden.
Dodd, I. F. S., Pittsfield.
Harrington, Francis B., Boston.
Burr, Noah A., Springfield.
Dearing, H. S., Boston.
Burnham, [illegible] Boston.
Emery, Ge[illegible]
Howard, E. [illegible]
Cooper, Almon, Brookline.
Dix, Geo. A., Worcester.
Beal, Howard W., Worcester.
Merrill, Quincy H., Leominster.
Redmond, Jas. W., So. Boston.
Millett, Wilfred A., Pittsfield.
Baker, Osmyn, Northampton.
Greene, Edw. M., Boston.
Ryder, Jas. W., Boston.
Chapman, Chas. R., Springfield.
Wentworth, Wm. W., Pittsfield.
Pierson, Edward L., Salem.
Wetherell, Arthur B., Holyoke.
Hutchinson, Edwin D., Westfield.
Jackson, Chas. W., Monson.
McKeen, Sylvester F., Allston.
Clarke, Louis H., Holyoke.
Cushing, Hayward W., Boston.
Bernard, Barnard L., So. Boston.
Burnham J. Forrest, Lawrence.
Bates, W. S., Barre.
Dennett, Daniel C., Winchester.

### MICHIGAN.

Eldred, Joseph N., Chesaning.
Harrison, L. C., Battle Creek.
Barney, L. S., Leonidas.
Grant, F. E., Athens.
Bayley, Wesley G., Carlton Center.
Maas, Rudolph J., Hancock.
Blaisdell, R. H., Sheridan.
Bell, T. H. E., Montgomery.
Jones, L. C., Kalamo.
Cochran, L. E., Peck.
Friedlander, Bernhard, Sebewaing.
Kelly, Edw. H., Ironwood.
Evans, E. J., Rockland.
Lawton, G. W., Jennings.
Orton, Ellsworth, Waterford.
Schultz, Samuel, Coldwater.
Maxwell, Jas. E., Decatur.
Belanger, Henry, River Rouge.

### MINNESOTA.

Werner, O. S., Lindstrom.
Wood, Douglas F., Hanska.
Lewis, W. W., St. Paul.
Meade, C. J., St. Paul.

### MISSISSIPPI.

Crook, H. L., Jackson.
Mitchell, C. D., Pontotoc.
Biles, J. D., Sumner.
Hamilton, Wm. W., Brooksville.
Price, T. M., Raymond.
Coker, D. W., Tunica.
Frizell, Jr., W. H., Brookhaven.
McCain, Geo. H., Coldwater.
Garrison, H. F., Seminary.
Pollard, Marquis L., Eden.
Barksdale, J. W., Valden.
Backstrom, John G., Tutwiler.

### MISSOURI.

Lindley, W. T., Hamilton.
Clark, Chas. E., Kansas City.
Neff, Robt. L., Joplin.
Hempel, Max, St. Louis.
Williams, Ira, Maitland.
Dunigan, Jas. P., Sullivan.
Luscher, L. W., Kansas City.
Henderson, F. L., St. Louis.
Horwitz, M. R., St. Louis.
Simmons, B. B., Oregon.
Bullock, F. E., Forest City.
Krebs, F. J. V., St. Louis
Anderson, J. N., Conway.
Murray, E. W., Parkville.
McEuen, O., Shannondale.
Dallas, L. W., Hunnewell.
Edmonds, O. R., Tina.
Van Eman, F. T., Kansas City.
Norris, T. J., Macon.

### NEBRASKA.

Campbell, Thos. F., Cody.
Devries, J. S., Fremont.
Sundbury, P. A., Holdrege.
Hull, Geo. M., Kearney.
Wiley-Ralston, Adda, Omaha.
Beck, F. L., Ong.
Fleming, H. C., Falls City.
Baxter, Mark Wm., Prosser.
Sadler, W. W., Bee.
McDonald, Jas. L., Atkinson
Hoff, A. E., North Bend.
Peterson, Wm. A., Elgin.
Waller, Jos. E., Salem.
Myers, E. M., Bennet.
Orr, H. W., Lincoln.
Weidner, S. S., Fairbury.

### NEW HAMPSHIRE

Huckins, T. H., Tilton.
Morey, G. B., Manchester

### NEW JERSEY.

Wintersteen, J. B., Moorestown.
Koch, L. A., Newark.
Pinneo, F. W., Newark.
Hawkes, E. W. Z., Newark.
Berner, David, Egg Harbor City.
De Silver, J. F., Atlantic City.
Foster, Wm. S., Flanders.
Moenig, Jos. A., Park Ridge.
Decker, F. H., Frenchtown.
Stevenson, W. D., Trenton.
Levy, H., Perth Amboy.

### NEW YORK.

Bacon, C. B., Brooklyn.
Graney, Chas. D., Le Roy.
Smith, F. C., Fleming.
Duel, Arthur B., New York City.
Genung, Homer, Freeville.
Latcher, Marshall, Oneonta.
Douglas, F. J., Utica.
Maynard, E. H., Nyack.
Schwerd, Max J., New York City.
Walker, Eloise, Hudson.
Preston, Jas. L., Kingston.
Peterson, Frederick C., Watertown.
Lettice, F. E., Watertown.
Gardner, Levi E., Black River.
Masson, Thos., Cape Vincent.
Calkins, Fred'k R., Watertown.
Yates, David G., New York City.

### NORTH CAROLINA.

Ballou, Jas. L., Crumpler.
Jones, Arthur L., Brandon.
Duncan, G. F., U. S. Army, No. Wilkesboro.

### OHIO.

Nelson, Lockhart, Hillsboro.
Cherry, W. T., McArthur.
Levison, Lewis A., Toledo.
Lyne, G. L., New Paris.
McCullough, G. E., Troy.
Stewart, J. O., Cedarville.
O'Brine, David, Urbana.
Davy, J. O., Springfield.
Miller, A. C., Covington.
Beckwith, Anson B., London.
Robe, Orin W., Portsmouth.
Yeomans, Wm. L., Bucyrus.
Kurtz, Harry B., Cleveland.
Parke, Milton J., Cleveland.
Kidd, Robt. A., Shepard.
Combs, Rebecca V., Columbus.
Hanson, D. S., Cleveland.
Watson, J. L., Toledo.
McConnaughey, Van B., Hillsboro.
Mackenbach, C. W., Montezuma.
Ackerman, E. V., Fredericktown.
Weir, Wm. H., Cleveland.
Berlin, W. C., Cleveland.

### OKLAHOMA.

Stewart, B. F., Britton.
Lain, E. S., Weatherford.
Mayberry, E. A., Enid.
Hatchett, John A., El Reno.
Browning, J. W., Geary,
Hulen, F. P., Pond Creek.
Fleming, J. R., Sinnett.
Kelso, M. A., Enid.

### OREGON.

Estes, Oris B., Astoria.
Vernon, Nellie S., Astoria.
Tuttle, Jay, Astoria.
Cartwright, Richard, Salem.
Patton, Matthew J., Astoria.
Tilzer, A., Portland.

### PENNSYLVANIA.

Sears, W. H., Huntingdon.
Kurtz, J. E., Reading.
Gans, S. Leon, Philadelphia.
Klemm, Adam, Philadelphia.
Fritz, W. Wallace, Philadelphia.
Sprissler, Theo., Philadelphia.
Hannum, Wm., Hatboro.
Bachman, Gustavus A., Philadelphia.
Goldberg, H. G., Philadelphia.
McAboy, C. Bradford, Pittsburg.
Hume, John E., Philadelphia.
Shea, Wm. K., Philadelphia.
Bare, Horace C., Philadelphia.
Embery, Frank, Philadelphia.
Arnold, Jesse O., Philadelphia.
Wagner, L. F., Reading.
Marshall, Clara, Philadelphia.
Schell, J. Thompson, Philadelphia.
Dripps, J. H., Philadelphia.
Newbold, Henry A., Philadelphia.
Kilgore, Frank D., Harrisburg.
Chapin, L. S., Philadelphia.
Johnson, Wm. N., Philadelphia.
Coates, Geo. M., Philadelphia.
Bradley, W. N., Philadelphia.
MacIntosh, Jas. W., Philadelphia.
Dye, Frank H., Philadelphia.
Tucker, Henry, Philadelphia.
Skillern, Ross H., Philadelphia.
Small, W. B., Philadelphia.
Kamerly, Jr., E. F., Philadelphia.
McElhaney, C. W., Greenville.
Ellis, C. J., Pittsburg.
McAdams, Wm. J., Pittsburg.
Gentry, C. C., Antrim.
Bassett, H. L., Yardley.
Brown, S. H., Philadelphia.
Holbert, J. F., Fairchance.
Alexander, G. L., Lancaster.
Morgan, Arthur C., Philadelphia.
Solt, Thos. J., Mountain Top.
Schappert, N. L., Wilkesbarre.
Davison, Wm. F., Dorranceton.
Hitchens, Arthur P., Glenolden.
Barnes, Chas. S., Philadelphia.
Krug, J. A[illegible]
Fischelis, [illegible]
Flynn, J. C[illegible]
Thomason, W. P. O., Easton.
McKeage, Wm., Philadelphia.
Wise, Geo. G., Philadelphia.
Felt, Carle Lee, Philadelphia.
Weber, Henry F., Philadelphia.
Umsted, Wm. M., Philadelphia.
Hollingshead, I. W., Philadelphia.
Carpenter, Hubert, Philadelphia.
Ullom, Josephus T., Philadelphia.
Nock, Thos. O., Philadelphia.
Leidy, Jr., Jos., Philadelphia.
Willits, I. P., Philadelphia.
Buchanan, Mary, Philadelphia.
Hamilton, G. V., Warren.
Wright, W. J., Duncannon.
Tarr, Robt. F., Kittanning.
Ashley, Shaile L., Plymouth.
Wheeler, Edwin B., Philadelphia.
Harris, Geo. F., Bellefonte.
Seabrook, Alice M., Philadelphia.
Haehnlen, W. F., Philadelphia.
Roebuck, J. P., Lilitz.
Bolin, J. Albert, Philadelphia.
Forst, John R., Philadelphia.
Mann, E. S., Dallastown.
Owens, A. C. K., Pittsburg.
Shope, E. L., Harrisburg.

### RHODE ISLAND.

Jackson, Frank H., Providence.
Lyon, Donald B., Pawtucket.
Kerins, John Francis, Providence.
Cheever, John H., Pawtucket.
Potter, Henry B., Providence.
Cutts, Wm. Bryant, Providence.
Stone, Ellen A., Providence.
Deacon, Chas. F., Providence.
Randall, Arthur G., Providence.
Munro, Catherine N., Providence.

### SOUTH CAROLINA.

Wilson, Jr., Robert, Charleston.

### SOUTH DAKOTA.

Holmes, Alva E., Verdon.
Koobs, Herman J. G., Scotland.
Class, F. L., Huron.
Mathewson, Angus, Bristol.
Christianson, Martin M., Hazel.

### TENNESSEE.

Haynes, Eugene E., Memphis.
Burdett, George M., Lenoir City.
Malone, Wm. B., Memphis.
Haywood, Jno. Lee, Columbia.
Plunkett, Jas., Nashville.
Hydes, Robt. L., Isabella.
Teas, Jas. Jos., Oakville.
Waller, J. J., Oliver Springs.
Roberts, W. E., Jefferson City.
Taylor, Thos. F., Friendship.
Roberts, W. E., Talbotts.
Ferguson, R. F., Clarksville.
Bogart, W. G., Chattanooga.

### TEXAS.

Gustine, N. W., Dalys.
Connor, W. E., Cumby.
Leache, Herbert F., Aledo.
Lacy, Robert Y., Pittsburg.
Lee, Geo. H., Galveston
Phillips, J. D., Tyler.
McMullin, H. R., Green.
Carman, E. M., Red Oak.
Self, Thos. Newton, Cleburne.
Harwood, M. V., Hubbard City.
Gerau, Thos. C., Petty.
Black, R. C., Gainesville.
Lipscomb, W. C., Crockett.
Pollard, W. J., Kaufman.
Watt, W. Neal, Austin.

### UTAH.

Snow, Leslie W., Salt Lake City.

### VERMONT.

Start, S. Gould, Cambridge.
Gibson, Jno. M., McIndoe Falls.

### VIRGINIA.

Blanton, J. C., Richmond.
Wayland, A. Bledsoe, Crozet.
Kellam, S. S., Belle Haven.
Grinnan St. George T., Richmond.

### WASHINGTON.

Durand, W. S., Everett.
Hall, J. F., Albion.
Lentz, Jos. D., Farmington.

### WEST VIRGINIA.

Hume, Wm. A., Quinnimont.
Rymer, H. M., Harrisville.
Gordon, Patrick L., Corbin.
Hume, Benj. L., Prince.
Poole, Albimus, West Union.
Deem, Hamline N., Tyner.
Rickey, Jno. W., Moundsville.

### WISCONSIN.

Reynolds, Jas. C., Lake Geneva.
Strauss, F. H., Milwaukee.
Brown, Jno. F., Waupun.
Scanlan, Peter L., Lancaster.
Howard, J. J., Columbus.
Junck, Jno. A., Sheboygan.
Zeiss, Anton, Sheboygan.
Juergens, L. W., Fredonia.
Rood, J. F., Darien.
Jegi, Henry A., Galesville.
Ellis, W. E., Prentice.
Eddington, Royal, Wauwatosa.

## The Public Service.

### Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Feb. 6, 1904:

Yost, John D., asst.-surgeon, relieved from temporary duty at Fort Mason, Cal., and from duty as examiner of recruits, San Francisco.

Farr, Charles W., asst surgeon, in addition to his present duty at Fort Mason, Cal, to examine recruits San Francisco

Turnbull, Wilfrid asst surgeon, relieved from duty at Fort Monroe, Va, and ordered to Fort Strong, Mass

Dean, Elmer A asst surgeon relieved from duty at Fort Strong, Mass, and ordered to Fort Riley, Kan, for duty

Wales, Philip G, and Wells Geo M, surgeons, and Wolfe, Edwin P, and Shockley, M A W, asst surgeons, sailed from San Francisco on the *Sheridan*, en route to Manila, P. I.

Murray, Alex, asst surgeon, is assigned to duty as surgeon on transport *Sheridan*, to take effect on arrival of transport at Manila, P I

Hanner, John W, asst surgeon, relieved from duty as surgeon on transport *Sheridan* on its arrival at Manila, P. I., and to report to commanding general, Division of the Philippines, for assignment to duty

Appel, Aaron H., surgeon, sick leave further extended three months on S C D

Lando M E asst surgeon resignation as first lieutenant and asst surgeon took effect Feb 1, 1904.

Burkart John L contract surgeon ordered from Grand Rapids Mich, to the Division of the Philippines Will sail from San Francisco March 1

Patterson Edwin W, contract surgeon, at the expiration of his leave of absence to return to the Division of the Philippines sailing from San Francisco March 1 His order for Fort Washington, Md, revoked

MacDonald, Charles E contract surgeon, ordered to proceed from his home at Jeffersonville, N Y, to Fort Bliss, Texas, where he will arrive February 20, and accompany a battalion of the Twelfth Infantry to the Division of the Philippines

Miller, William G, contract surgeon ordered from his home at New Castle Pa to Holbrook Ariz there to join a portion of the Twelfth Infantry and accompany that regiment to the Philippine Islands

Newton Ralph W contract surgeon, ordered from his home at Barre Vt, to Price Utah, where he will meet the companies of the Twelfth Infantry, now stationed at Fort Du Chesne Utah and accompany them to the Philippine Islands

Trook, Edwin M, contract surgeon, ordered from his home at Marion Ind, to Fort Douglas Utah where he will report for duty with the Twelfth Infantry, en route to duty in the Division of the Philippines

Chambers William H contract dental surgeon relieved from further duty in the Department of the East, and assigned to the Department of the Gulf

## Navy Changes.

Changes in the medical corps of the Navy, week ending February 6, 1904

Strine H F asst surgeon detached from the Naval Station, Isabela P I, and ordered to the Navy Yard Olongapo P I

Grunwell A G, surgeon, granted sick leave for three months from February 2

Heiner, R G, asst surgeon, ordered to the Naval Hospital, New York

Stoop, R E, asst surgeon, ordered to the Naval Hospital Norfolk, Va

Spear, R, and Ship, E M, surgeons, commissioned surgeons from March 3, 1903.

Morse, E T, pharmacist, detached from the Naval Laboratory, and ordered to the Naval Station, Cavite, P I

## Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service, for the seven days ended February 4, 1904

Warren, B S asst surgeon, granted leave of absence for seven days from February 12

Foster, S B, A A surgeon, Department letter granting leave of absence for ten days from Jan 17, 1904 amended to read ten days from Jan 21, 1904

Maguire, E S, pharmacist relieved from duty at Fort Stanton, N M, and directed to proceed to Mobile, Ala and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist J E Beck

Beck J E, pharmacist on being relieved from duty at Mobile, Ala by Pharmacist E S Maguire, to proceed to Fort Stanton N M and report to medical officer in command for duty and assignment to quarters

Holt E M, pharmacist, granted leave of absence for twenty seven days from January 1 on account of sickness

Robinson D M, asst surgeon commissioned as P A surgeon, to rank as such from Dec 28 1903

Foster, William J appointed A A surgeon at Lexington Mich, for examination of keepers and surfmen of the Life Saving Service

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended Feb 5, 1904

SMALLPOX—UNITED STATES

District of Columbia Washington, Jan 23 30, 1 case
Florida Jacksonville Jan 23 30 4 cases
Indiana Evansville Jan 23 30 2 cases
Iowa Des Moines Jan 23 29 1 case
Louisiana New Orleans Jan 23 30, 2 cases, 1 case imported
Maine Orono, Jan 22, 1 case
Michigan Jan 23 30 Detroit, 1 case; Flint, 1 case, Grand Rapids 2 cases
Missouri St Louis, Jan 23 30, 13 cases
New Hampshire Manchester Jan 23 30 2 cases
New Jersey · Camden, Jan 23 30, 1 case, 1 death
New York: Buffalo, Jan 22 29, 1 case
Ohio Jan 23 30, Bucyrus, 4 cases, Warren, 1 case
Pennsylvania Jan 23 30, Allentown, 1 case, Erie, 1 case; Johnstown, 2 cases; McKeesport, 5 cases, Philadelphia, 65 cases, 17 deaths: Pittsburg, 15 cases, 1 case imported; Reading, Jan 25 Feb 1, 2 cases; Williamsport, Jan 24 31, 1 case
Utah Salt Lake City, Jan 23 30, 1 case
Wisconsin Milwaukee, Jan 23 30, 3 cases

SMALLPOX—FOREIGN.

Austria: Prague Jan 2 9, 5 cases
Brazil: Rio de Janeiro, Dec 27 Jan 3, 41 cases, 27 deaths
China. Shanghai, Dec 21 29, 1 case 1 death.
France Paris, Dec 26 Jan 16 50 cases, 3 deaths
Great Britain · Jan 8 16 Edinburgh 9 cases, Leith, 1 death, Liverpool, 1 death; Manchester, 1 case; Newcastle on-Tyne, 2 cases, Sunderland, 6 cases, 1 death; Glasgow, Jan 15 22, 65 cases, 4 deaths; London, Jan 2-16 10 cases
India · Bombay, Dec 29 Jan 5, 3 deaths; Karachi, Dec 27 Jan. 3, 7 cases, 1 death
Mexico: Tampico, Jan 10 24, 11 cases
Netherlands · Amsterdam, Jan 8 16, 2 cases, 1 death
Russia Dec 26 Jan 2, Moscow, 5 cases, Odessa, 2 cases; St Petersburg, Jan 2 9, 24 cases, 1 death.
Spain: Santander, Jan. 10 17, 2 cases

YELLOW FEVER.

Africa: Grand Bassam,, Dec 12, present
Brazil: Rio de Janeiro, Dec 28 Jan 3 2 cases
Mexico · Vera Cruz, Jan 16 23 1 case
Panama: Panama, Jan 5 12 3 deaths
Venezuela: La Guaira, Jan 2 9, present

PLAGUE

British Burmah. Rangoon Dec 9, 1 death
China. Hongkong Dec 5 12, 1 case 1 death
India Bombay, Dec 29 Jan 5, 125 deaths, Karachi, Dec 27 Jan 3 7 deaths
South Africa Natal (Pietermaritzburg), Dec 5 3 cases, 2 deaths

CHOLERA

Straits Settlements Singapore, Dec 5 19, 3 deaths
Turkey in Asia · Dec 28 Jan 4, Diarbokir, 15 deaths; Inobe, 1 case 1 death, Latakiah, 11 cases, 7 deaths, Mossul, 1 case, 1 death, Mussieb, 18 cases, 18 deaths; Kerbela, Dec 21-23, 15 deaths

# Medical Organization.

## Indiana.

Benton County Medical Society.—This society was reorganized February 1, with the aid of Dr George F. Keiper, Lafayette, councilor for the Tenth District, and the following officers were elected: President, Dr. Clark Cook, Fowler; vice-president, Dr. Samuel C. Fenton, Boswell, and secretary treasurer, Dr. Carl N. McCaslin, Earl Park.

White County Medical Society.—Dr. George F. Keiper, Lafayette, councilor for the Tenth District, announces the reorganization of this society January 28 The following officers were elected President, Dr Robert J. Clark, Monticello, vice president, Dr James L Carr, Monon, secretary, Dr. John H. Reed, Monticello; treasurer, Dr. Madison T. Didlake, and Dr J P Cray, delegate to state society

Miami County Medical Society.—This society reorganized, September 25, and adopted the standard constitution and by laws, and on January 29 the annual election was held, with the following result: President. Dr. Jared Spooner, Peru; vice president, Dr Ellis H Andrews, Peru; secretary, Dr John L Tyler, Mexico, and treasurer, Dr James O Ward, Peru By vote of the society the president-elect was instructed to cast the entire vote of the society at the next meeting for the board of censors and the delegates to the state meeting.

## Mississippi

Newton County Medical Association.—This society held its first regular meeting at Decatur, January 12, at which it adopted the standard constitution and by-laws, and elected Drs. Clarence V. Gilmore, Hickory, M. Luther Camp, Chunkeys Station, and Albert G. Petty, Conchatta, censors; Drs. M. Luther Camp, Chunkeys Station, W S Norris, Stamper, and I W Cooper, committee on health and legislation, and Dr W S Norris, Stamper, delegate to the state association

## Ohio.

Hancock County Medical Society.—Dr. Frank D. Bain, Kenton, councilor for the Third District, met the members of this society at Findlay, January 21, and delivered an address on the benefits of reorganization on the standard plan Dr Myron J. Ewing presided, and Dr John M Firmin acted as secretary A resolution to reorganize was adopted and a committee, consisting of Drs John M Firmin, Joseph P Baker and John C Tritch, was appointed to draft a constitution and by-laws

# Society Proceedings.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Ninety-Eighth Annual Meeting, held in Albany, Jan. 26-28, 1904.*

*(Concluded from page 391.)*

One of the valuable features of the scientific sessions was the symposium on abdominal pain.

### Abdominal Pain in General.

Dr. John H. Musser, Philadelphia, presented the opening paper. He said that while muscular rigidity or spasm was rightly held in high esteem as an indication of abdominal pain, certain precautions must be observed in interpreting this sign. In women, with relaxed and distended abdominal walls, there was not likely to be much muscular rigidity even in the presence of pain; also if there was much toxemia present. On the other hand, very muscular persons were apt to show this rigidity out of all proportion to the severity of the pain. The occurrence of rheumatism of the diaphragm and of diaphragmatic pleurisy should be kept in mind; also the fact that pneumonia, especially in children, might be confounded with appendicitis. Pyloric spasm and gastralgia were very apt to be mistaken for cholelithiasis. A sudden disappearance of pain was significant of the presence of a grave toxemia.

Dr. Joseph D. Bryant, New York, read a paper on "Abdominal Pain Referable to the Abdominal Walls." He said one should bear in mind the nerve distribution to the abdominal walls. An infection, localized in the abdominal wall itself, might be mistaken for intra-abdominal involvement.

### Abdominal Pain of Intestinal Origin.

Dr. Frederick Holme Wiggin, New York, said that, as a general rule, persistent and sharp abdominal pain pointed to peritonitis, and a dull, aching pain rather to involvement of the connective tissue. Tenesmus pointed to involvement of the lower third of the intestinal tract. If the colon were the offending part, there would usually be diarrhea, with a limitation of the pain and tenderness to the colon. The diagnosis of appendicitis should never be made until after disease of the chest had been excluded. In all cases of persistent and obscure abdominal pain exploratory operation should be done.

On the third day there was a symposium on nephritis.

### Renal Decapsulation from the Pathologist's Point of View.

Dr. J. M. Vancott, Brooklyn, concluded that decapsulation could only be injurious to the normal kidney, and of no benefit to the large white kidney.

### Surgical Treatment of Nephritis.

Dr. Willis G. MacDonald, Albany, thought that in infectious nephritis arising from local bacterial infection by such organisms as the gonococcus and streptococcus, and in cases of acute suppression of urine following operations on the genito-urinary tract, surgical treatment was of value.

### General Treatment of Nephritis.

Dr. Beverley Robinson, New York, treated in this paper only of acute and chronic diffuse nephritis. He said that, in the acute attacks, the patient should at once be placed in bed, clothed in woolen and surrounded by blankets, and given at first an almost exclusively milk diet. The kidneys should be relieved by rapidly emptying the bowel with salines, and by diaphoresis by the hot wet pack, which was simpler and safer than the hot water bath. Poultices over the kidneys to relieve the renal congestion, and high rectal irrigations of saline solution with Kemp's tube to promote diuresis, were useful. He looked on pilocarpin as a dangerous drug. If an attack of uremia were imminent, nitroglycerin or the sweet spirits of niter, and, in some instances, wet cupping or even venesection might be required. As the acute stage passed off, the dietary should be cautiously enlarged, and the pronounced anemia should be combated by the administration of the tincture of the chlorid of iron, or by Basham's mixture. The bowel and skin should be kept active, and excesses in eating or physical exercise carefully guarded against. The diarrhea of chronic Bright's disease was sometimes controlled by prolonged irrigation of the bowel. When there was so much anasarca that the skin became very tense, it might be necessary to puncture the skin, or even insert a capillary drainage tube. If dyspnea were marked, paracentesis of the pleura or abdomen might be demanded. Digitalis was often useful, but in persons past middle life, it was generally necessary to counteract its constricting action on the blood vessels by adding nitroglycerin. In chronic nephritis, one should be especially solicitous about the development of subacute attacks. The urine should be watched, and the diet and exercise regulated by the amount of albumin and the number and character of the casts found therein. Iodid of potassium was very prone to derange the stomach and impair the appetite. All irritant drugs, such as chlorate of potash, the salicylates and the phenol compounds should be used with caution. As a general rule, patients did better without alcoholics in any form, but there were exceptions, notably those who had been accustomed to small quantities daily for years. In nephritis and threatening or actually developed uremia, a good general rule was to give morphin only when the pupil showed a tendency to dilate; when the opposite condition obtained morphin was especially dangerous. For sleeplessness, bromids should be given.

### Discussion on Nephritis.

Dr. DeLancey Rochester, Buffalo, said that he had found it an easy matter, even in the humblest homes, to give the hot air bath, and, in his hands, it had proved exceedingly efficient. He did not use pilocarpin in large doses, but when given in minute doses, by hypodermic injection, and immediately followed by the hot air bath, he had found it useful in persons in whom it was not easy to excite free diaphoresis. As a guide to the management of chronic nephritis, it was just as important to determine from time to time the total excretory power of the kidney, as indicated by the total quantity of urea and of urinary solids, as it was to note the fluctuations in the albumin and casts.

Dr. S. B. Ward, Albany, urged the use of arsenic in overcoming the anemia of nephritis.

### Fifteen Years' Experience with Uterine Fibroids.

Dr. W. E. Ford, Utica, presented an experience embracing 162 cases which had been kept under observation for a sufficient length of time. There were 96 cases treated by the galvanic current in the earlier years. In 7 of these there was a disappearance of both the symptoms and the tumor, and 26 cases had been greatly improved for a period of five years or more. Thirty-one cases were treated by curettage, ligation of the uterine arteries or by the administration of drugs. Of this number, 24 had been temporarily benefited. There were 81 operative cases, 34 by Baer's method. He did not think more than 20 per cent. of cases of fibroids required operation.

### Results in Diffuse Septic Peritonitis Treated by the Elevated Head and Trunk Position.

Dr. Russell S. Fowler, Brooklyn, reported about 80 cases treated by this postural method, and about one hundred cases altogether were operated on, no one being refused operation, no matter how desperate the outlook. Of the 33 deaths, 17 occurred in the first twenty-four hours, and these patients were profoundly septic at the time of operating. Sixty-seven patients recovered. The technic consisted in applying to all infected areas a mixture of equal parts of peroxid of hydrogen and soda solution, and following this with salt solution. The entire abdomen and pelvis were flushed with the saline solution, and a glass tube inserted into the pelvis. Immediately after the operation the bed was elevated at least one foot.

Other papers read were as follows:

"A Study of the Climate of Long Island," by Dr. W. H. Ross, Brentwood, Long Island, N. Y.; "The Submerged Tonsil," by Dr. Thomas J. Harris, New York; "Irritability of the Bladder in Women," by Dr. R. L. Dickinson, Brooklyn; "Tic Douloureux and Other Neuralgias from Intranasal and Excessive Accessory Sinus Pressures," by Dr. Sargent F. Snow, Syracuse, reporting 20 chronic cases, none of which required excision of the nerve, but all of which showed intranasal pressures or collections in the sinuses; "Enuresis," by Dr. George E. Beilby of the State Industrial School at Rochester; "The Non-operative Treatment of Trachoma," by Dr. Frank J. Parker, New York, recommending vigorously rubbing the lids three times a week with a 1 to 500 bichlorid of mercury solution and having the patient at home drop into the eyes, night and morning, a solution of argyrol.

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## Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

### La Grippe.

In the general treatment of la grippe, Dr. D. R. Brower suggests that the patient be given the mild chlorid of mercury grains three to five (.20-.30) in divided doses, followed by a saline cathartic. To combat the infection, temperature and pain, he recommends the following combination:

℞. Salol
Quin. sulphatis
Acetanilidi, āā....................gr. xx 1|30
M. Ft. cap. No. xx. Sig.: One every hour or two hours.

The patient should be put to bed and placed on a light liquid diet.

When insomnia is present, as is the case quite frequently, he recommends the following:

℞. Trional ..........................ʒiss 6|
M. Ft. chart. No. vi. Sig.: One at bedtime, and repeat in one hour if necessary; or:
℞. Chloratis hydratis ..................ʒiss 6|
M. Ft. chart. No. vi. Sig.: One powder at bedtime dissolved in half a glass of water.

The after-treatment should be carefully carried out in order to build up the physical condition as rapidly as possible. He notes in this connection the increase in suicides and tendency to kidney changes following epidemics of la grippe. He therefore recommends in these convalescent cases a mild alterative similar to the following:

℞. Auri et sodii chloridi ............gr. iii-v |20-.30
Pulv. res. guaiaci.....................ʒi 4|
M. Ft. cap. No. xxx. Sig.: One capsule one-half hour before each meal, washed down with hot water.

In some cases the following is recommended:

℞. Ammon. brom. ......................gr. ʒii 8|
Ammon. iodidi.........................ʒi 4|
Ext. glycyrrhizæ flu. q. s. ad..........℥iii 90|
M. Sig.: One teaspoonful every three hours.

As a hematinic he recommends the following:

℞. Ferri sulph. (exsic.)
Sodii carb., āā.........................ʒi 4|
Ext. nucis vom.......................gr. vi |30
Acidi arsenosi.......................gr. i |06
M. Ft. cap. No. xxx. Sig.: One capsule three times a day after meals.

To relieve the laryngotracheal cough in influenza Yeo recommends the following combination containing apomorphin:

℞. Apomorphinæ hydrochlor. ............gr. i |06
Morphinæ hydrochlor.................gr. ¾ |05
Acidi hydrochlor. dil. ...............ʒss 2|
Syrupi ..............................ʒiv 15|
Aquæ q. s. ad........................℥iv 120|
M. Sig.: One or two teaspoonfuls at a dose and repeat as the individual case requires.

The following is also recommended to relieve the cough:

℞. Heroin hydrochlor. ..............gr. 1/24 |0025
Terpin hydratis ....................gr. iiss |15
M. Ft. pil. No. i. Sig.: One such pill at bedtime.

As an inhalation for the relief of the cough the following is of service:

℞. Glycerini
Spts. camphoræ, āā.....................ʒi 4|
Tinct. benzoini .......................ʒii 8|
Spts. chloroformi ......................℥ss 15|
M. Sig.: Thirty to sixty drops to be inhaled from a jug half full of hot water, two or three times daily.

The following, according to the author, is also valuable in relieving the cough:

℞. Liq. morph. hydrochlor.
Acidi hydrobrom. dil., āā...............ʒi 4|
Spts. chloroformi ....................m. iii |20
Tinct, limonis .........................ʒi 4|
Syrupi. q. s. ad.......................℥iss 45|
M. Sig.: One teaspoonful as indicated to relieve the cough.

In influenzal pneumonia the following is indicated:

℞. Ammonii carb. ........................ʒiv 15|
Tinct. cinchonæ ........................℥iss 45|
Spts. ammon. arom. .....................ʒiv 15|
Decoct. cinchonæ q. s. ad...............℥xii 360|
M. Sig.: Two tablespoonfuls with a tablespoonful of lemon juice in effervescence every four hours.

Where there are pulmonary complications the following formula recommended by H. C. Wood will be of value:

℞. Ammon. chloridi ......................ʒii 8|
Apomorph. hydrochlor. ...............gr. i |06
Mist. glycyrrhizæ comp. ...............℥iss 45|
Syrupi ................................℥iss 45|
M. Sig.: One dessertspoonful every two hours.

And if diarrhea occurs in the course of an influenzal attack he recommends the following combination:

℞. Bismuthi subnit. ....................gr. x |65
Acidi carbol. ......................gr. iss |09
M. Ft. cap. No. i. Sig.: One such capsule every two, three or four hours.

For the neuralgic pains in influenza Bardet, in *Clin Ther.*, recommends the following combination:

℞. Exalgin .........................gr. lxxv 5|
Tinct. aurantii .....................m. lxxv 5|
Syr. aurantii ..........................℥i 30|
Aq. destil. q. s. ad....................℥v 150|
M. By rubbing the tinctura aurantii and exalgin together, adding sufficient *alcohol* to dissolve, then add the syrup aurantii and water.

Sig.: One tablespoonful at a dose and repeat if necessary. [Exalgin is methyl-acetanilid.]

### Pertussis.

The following combinations, recommended by *Jour. des Pract.*, are of value in the treatment of whooping cough:

℞. Pulv. belladonnæ rad. ...........gr. 1/20 |003
Pulv. sacchari .........................ʒi 4|
M. Ft. chart. No. viii. Sig.: Two powders daily; or:
℞. Atropinæ sulph. ................gr. 1/100 |0006
Aquæ destil. ...........................℥vi 180|
M. Sig.: One dessertspoonful at a dose and repeat in three or four hours, watching the effects carefully; or:
℞. Bromoform. ......................m. xlviii 3|20
Alcoholis .............................ʒiiss 10|
Aq. laurocerasi ........................ʒi 4|
Aq. destil. ...........................℥iv 120|
M. Sig.: One teaspoonful four times daily; or:
℞. Bromoform.........................m. xlviii 3|20
Olei amygdalæ dulcis
Pulv. acaciæ, āā.......................℥ss 15|
Aq. laurocerasi ........................ʒi 4|
Aq. destil. q. s. ad...................℥iv 120|
M. Sig.: One teaspoonful three or four times daily.

[When administering bromoform the effects must be carefully watched on account of its tendency in some cases to produce depressing effects.]

### Tapeworm in Children.

The following outline of treatment is of service as a vermifuge in children, according to an abstract in *N. Y. and Phila.*

*Med. Jour.*: Place the child on a milk diet for two days. The night before administering the vermifuge give a purgative enema of sodium sulphate. The following morning give:

| | | | |
|---|---|---|---|
| ℞. | Oleores. aspidii | m. xxx-ʒiss | 2.-6 |
| | Hydrarg. chloridi mitis | gr. iii-viiss | 20-.50 |
| | Pulv. saccharo | ʒvi | 24 |
| | Gelatin q. s. | | |

M. Sig.: To be given in four doses at intervals of half an hour. While the worm is being expelled, another purgative enema may be given, if the parasite threatens to break.

### Subacute Gout.

The following combination is recommended by *The Pract.* in the treatment of subacute gout:

| | | | |
|---|---|---|---|
| ℞. | Colchicin | gr. 1/60 | 0001 |
| | Ext. nucis vom. | gr. 1/4 | 015 |
| | Ext. gentianæ | gr. i | 06 |

M. Ft. pil. No. i. Sig.: One such pill three times a day.

As a local application for gouty joints the following is recommended by Clemens in *Amer. Med.*:

| | | | |
|---|---|---|---|
| ℞. | Sodii carb. | ʒiii | 12 |
| | Tinct. opii | ℥ii | 60 |
| | Linimenti bellad. | ℥ii | 60 |
| | Aquæ q. s. ad | ℥viii | 240 |

M. Ft. linimentum. Sig.: Mix with equal parts of hot water and apply locally to the affected joint on a cloth and cover with oiled silk.

## Medicolegal.

**Medical Examiner's Decision not Final.**—The Supreme Court of Nebraska holds, in C., B. & Q. R. R. Co. vs. Olson, that the decision of the medical examiner of the relief department of a railroad company that a member is "not entitled to any further disability benefits" is a mere conclusion, and is not binding on the parties.

**Can Not Compel Witness to Exhibit Leg—Compensation.**—In the case of McKnight vs. Detroit & Mackinac Ry. Co., brought to recover for medical and surgical services rendered to a number of persons injured in a train wreck, one of those treated was called as a witness for the railway company and asked to exhibit his leg to the jury. This he declined to do, and the trial court refused to compel him to do so. The Supreme Court of Michigan holds that this ruling was correct. It distinguishes this case from one where the question was whether a party to an action could be required to submit her arm at the point of an alleged fracture, where such exhibition would cause no shock to the sense of delicacy, in which the decision was rested on the ground that, where a person appeals for justice, he impliedly agrees in advance to make any disclosure that may be necessary to be made in order that justice may be done. It says that this witness occupied no such relation to the cause, and objected to exhibiting his leg, and the Circuit Court correctly ruled that he had the right to so object. It was requested that the jury be instructed, in effect, that there were no amounts agreed on with the railway company for the services performed or to be performed, and that, if it was liable at all for any professional services rendered, it was liable only in such an amount as would be reasonable and fair under all the circumstances; that the party suing had not the right to fix an arbitrary fee, nor could any number of physicians agree on a fee to be charged. They were entitled to receive, if anything, what their professional services were worth in the community in which they rendered them, and no more. The circuit judge charged the jury, in substance, that, in estimating the value of the physician's services, they should consider the professional skill and the experience of the physician, the nature and character of the services rendered, the difficulties and the nature of the case, and the amount of services rendered, and clearly limited the recovery to such a sum as, on the evidence, the jury should find would compensate the party suing for services rendered in this case. The Supreme Court thinks this sufficiently covered all that the company by its request had the right to have given to the jury. It says that it necessarily excluded the fact that an arbitrary fee might be fixed by the party suing or by any number of physicians; and, had the request been given, it might have led the jury to believe that the purpose was to discredit the testimony of the witnesses for the party suing who were physicians, and who had substantially agreed as to the value of his services. Another physician, who was called as a witness for the company, having testified that he, too, had attended a number of victims of the wreck, the Supreme Court holds that there was no error in excluding evidence of what he received for his services. It says that he was permitted to testify fully as to the reasonableness of the charges of the party suing, and evidence of what he received for the services he rendered would have opened the question as to how his services compared with those of the party suing, and would have involved the trial of an additional case.

**Liability for X-Ray Burn—Competent Witnesses.**—The Supreme Court of Minnesota holds, in Henslin vs. Wheaton and others, that, in an action against a physician and surgeon for negligence and unskillfulness in applying to the body of the party suing the device known as "Roentgen's X-rays" for the purpose of locating a foreign substance thought to be in his lungs, the rule of liability is the same as that applied in other actions for malpractice, and one of ordinary care and prudence. It says that this was the first case to come before it involving alleged negligence on the part of physicians in applying the recently-discovered *x*-rays, and that no rule of care in such cases had been laid down. But there can be no doubt that the rule applicable to the care and skill required of physicians toward their patients in other cases applies. That rule was stated in Martin vs. Courtney, 87 Minn. 197, in the following language: "The legal obligation of the physician to his patient, where his conduct is questioned in an action of this character, demands of him no more than the exercise of such reasonable care and skill as is usually given by physicians and surgeons in good standing." The rule is one of ordinary care and prudence, and the question presented in this *x*-ray case was whether the evidence received and that offered on the trial tended to show a failure on the part of the parties sued to exercise such care. The party suing testified that the exposure of his person to the *x*-rays was made for too long a period of time, and that the tube or bulb through which the rays are generated was placed too close to his body. He testified to the number of times the *x*-rays were applied, and the length of time--from thirty to forty minutes on each occasion—and that the tube of the apparatus was placed within two inches of his person in each instance, except one. He then called as an expert witness one whose testimony, if received, would have tended to show unskillfulness and negligence on the part of the parties sued. The foundation was fully laid for his opinion as an expert touching the questions involved in the case. But he was not a physician and surgeon, and the parties sued raised the objection that he was incompetent to testify against them, under the rule announced in the case of Martin vs. Courtney, 75 Minn. 255, where it was held that, in an action against a physician or surgeon for malpractice—unskillfulness in treatment being charged—the physician was entitled to have the propriety of his treatment tested by physicians of the same school. The trial court applied that rule to this case, and in doing so the Supreme Court is of the opinion that it erred. The Supreme Court says that the application of the *x*-ray to the party suing was not for the purpose of treating any disease or ailment from which he suffered, but for the purpose of locating, if possible, a foreign substance thought to be in his lungs (the gold crown of one of his teeth, which he thought he had inhaled). While it, perhaps, may in some instances be used as a remedial agent, it was not so employed in this case. The so-called *x*-rays, discovered by Roentgen, have been recognized and known to scientists, both in and out of the medical profession, for some eight years. During this time the apparatus for the generation of the *x*-rays, together with the fluoroscope, has been used very generally by electricians, professors of physics, skiagraphers, physicians, and others for experimental and demonstrative purposes. It is a scientific and mechanical appliance, the operation of which is the same in the hands of the college professor, or the physician of the allopathic, homeopathic, or any other school of medicine. It may be applied by any person possessing the requisite scientific knowledge of its properties, and there would seem to be no reason why its application to the human body may not be explained by any person who understands it. The rule in the Courtney case could therefore have no application to the case at bar. It might apply, did it appear that the application of the *x*-rays to the person of the party suing was for medical purposes, and not for the scientific purpose of discovering the presence of a foreign substance in his lungs. Wherefore, a physician who applies the *x*-rays, not for medical purposes, but to locate a foreign substance in the body of his patient, is not entitled to have the question of his care and skill in applying it determined by the opinions of physicians of his own school.

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### American Medicine, Philadelphia.

*January 30.*

1 *The Diagnosis and Treatment of Gallstones. Max J. Stern
2 *The Medicolegal Aspects of Autoabortion. Charles G. Cumston.
3 *Postoperative Intestinal Obstruction. A. M. Pond.
4 *Some Features of the Epileptic Attack. B. Onuf.
5 Some Reflex Neuroses of Dental Origin. William J. Lederer.
6 *Intrauterine Flushing and Drainage for Infection; the Passing of the Curette and Douche. Horace G. Wetherill.
7 The Relationship Existing Between the Ophthalmologist, Otologist and the General Hospital. Frank Allport.

1. **Gallstones.**—Stern remarks on the sudden appearance of pain, the difficulties of differential diagnosis, especially from appendicitis when the appendix points upward, and from right-sided floating kidney. As regards the appendix it is fortunate that the same treatment is required for both the conditions In floating kidney the most important point in the differential diagnosis, according to Kehr, is the sensation which is experienced with the reposition of the floating kidney. It darts upward and backward with a flop, and is liable to remain in its new position, while the gall bladder constantly returns to its place close to the anterior wall of the abdomen. No error should ever occur in cholelithiasis when a tumor exists in the right hypochondrium whose form and movement are inherent to a distended gall bladder. Jaundice is one of the least frequent symptoms, and is probably a disease of the individual liver cell communicated by extension of an inflammatory invasion from the biliary passages or some affection of the liver *per se*, unaccompanied by obstruction. Adhesions or kinks may produce symptoms in a patient who has already passed the stone. Stern gives a classification in detail of some 12 different types of gallstone disease. He remarks that the persistent latent stage is, of course, the best cure compatible with the existence of gallstones. There are two methods of procedure: to produce a stage of quiescence and latency, and operation. No solvent is known, and there is no remedy that will drive stones from the bladder. It is an unquestionable fact that, with the faithful use of hot laxative waters, the circulation of the liver, portal system and entire abdomen is improved, especially where the patient has been living an idle, luxurious life. Riedel says that 95 per cent. of all gallstone disease passes into the latent stage, and only 5 per cent. calls for operation. It should be the last resort. Stern says the physician can call himself a good diagnostician when he is able to differentiate between hydrops and empyema of the gall bladder, and acute seropurulent cholecystitis, and when he can determine whether a chain of symptoms is dependent on obstruction by stone or due to pressure by a tumor. This skill should be possessed by every practitioner.

2. **Auto-Abortion.**—Cumston discusses the possibility of auto-abortion, and thinks that it is comparatively common and is much more practicable than has been alleged by the textbooks. He gives his reasons for this belief in detail.

3. **Postoperative Intestinal Obstruction.**—Pond classifies postoperative intestinal obstruction as due to, 1, impairment of the physiologic function; 2, pathologic processes such as inflammation; 3, mechanical obstruction due to adhesion, adventitious bands, omental rents, accidents to the sutured wall and the presence of foreign bodies. Byford's plan of giving a mild laxative before the anesthesia is good. It will not act as a cathartic, but as a general intestinal tonic and stimulant, and in the vast majority of cases is most gratifying in its action, preventing impaction and inertia of the bowel. The temptation is great to be too energetic, however, in attempts to produce peristalsis. Obstruction due to lowered resistance can in a great measure, like paresis, be avoided by carefully conducting the operative procedures, avoiding hemorrhage, etc., and much of the tonicity can be restored by filling the abdomen with a hot solution of adrenalin chlorid in decinormal salt solution in the proportion of 1 to 1,000, which increases the intestinal blood pressure very markedly and stimulates intestinal peristalsis. Intestinal atony, due to predisposing causes, is the most obstinate form. The impairment due to pathologic process is most commonly met with in acute inflammatory involvement of the intestinal coats. When the process involves all the tunics the condition is exaggerated and cathartics must be withheld; the impaired intestine must have rest. If tenesmus be present the large bowel is involved, and the use of oxygen gas will relieve the circulatory stasis, and reestablish peristalsis. If the trouble is in the small intestine withhold all food and drink by the mouth and feed per rectum predigested food. Tympany and distension can often be controlled by gastric lavage as often as the patient needs it. Acute septic peritonitis may be caused by obstruction of the bowel from the absorption of septic material, and better results have been obtained by a high enema containing magnesium sulphate and turpentine than by evacuants administered by the mouth. The treatment of postoperative obstruction, of course, depends on its cause. An enema, medicated or plain, is the best first resort. If it does not prove effectual the application of the cautery over the abdomen should be tried. The use of cathartics is dubious, but rest does much in this condition. Atropin is said to act as a sedative, relieving the stasis. In mechanical obstruction the only thing to do is to operate, the earlier the better.

4.—See abstract in The Journal, xli, p. 1224.

6.—Ibid., p. 1290.

### New York Medical Journal.

*January 30.*

8 *Inaugural Address, Medical Society of the State of New York. Algernon T. Bristow.
9 Case of Purulent Pericarditis Secondary to Pneumonia, with Operation and Recovery. J. A. Scott.
10 *Solitary, or Fused Kidney, with Report of a Case. Warren A. Dennis.
11 *Some Investigations of a Bacterial Treatment of Tuberculosis. (Concluded.) Stephen J. Maher.
12 *Public Health and Food Preservatives. (Concluded.) R. G. Eccles.

8.—See abstract in The Journal, Feb. 6, p. 389.

10. **Fused Kidney.**—The various types of fused kidney are noted by Dennis, who reports a case and sums up the data in regard to the subject as follows:

1. According to available statistics, complete absence or extreme atrophy of one kidney is found once in 2,630 cases; horseshoe kidney once in 1,000 cases; and the fused kidney, exclusive of the horseshoe variety, once in about 16,000 cases.
2. The great majority of fused kidneys are misplaced, being usually in the median line and lower than normal.
3. The completely fused kidney, with normal position and approximately normal outline, is the rarest form of all.
4. Cystoscopic examination, with catheterization of the ureters, will prevent the error of removing the only organ present in all cases, except those of fusion.
5. Horseshoe and irregularly fused kidneys may be recognized on exposure by their abnormal shape or position, or by both.
6. The single remaining and rarest variety, that with normal outline and *position*, can probably always be at least suspected and left, if the ureter and pelvis are found shifted *to the* anterior surface.

11. **Tuberculosis.**—Maher reports here further experiments with his antitubercle X bacillus on rabbits previously inoculated with the tubercle bacillus and the results, and also discusses rather briefly other experiences in regard to the antagonistic action of other germs on the tubercle microbe. He says,

in substance, that he would like to emphasize the following points: The X bacillus can be injected alive and in pure culture into the human system. 2. After its injection it remains alive in the human body often for weeks, and does no other harm than occasionally, for obscure reasons, causing slight suppuration at the point of injection. 3. After its injection it causes a variable febrile reaction, never serious, and which probably varies in intensity according to the amount of its enzymes that are injected with the bacillus or according to the amount of material it finds to feed on. 4. After its injection, it has been found in the urine and blood and sputa of persons injected. 5. After injection into the groins of persons suffering from tuberculosis there is often a subjective sense of local reaction at the site of the tuberculous lesion. 6. After its injection into the connective tissue about tuberculous *fistulæ in ano*, a marked improvement, even to closure of the fistula, has followed. 7. After its injection into the ear of persons suffering from tuberculosis otitis media no harm has ensued, but in several instances a cure has followed. 8. After its application on gauze or cotton packing to sinuses leading from carious bone, supposedly tuberculous, such sinuses and caries have healed with surprising promptness. 9. Its hypodermic injection into patients suffering from lung tuberculosis has been followed in many instances by marked relief of cough, fever, night sweats, wasting, anorexia, diarrhea and hemorrhage. 10. Its instillation into the open tuberculous pleural cavity has caused the drying up of a purulent discharge that was resistant to ordinary methods. 11. Its hypodermic injection into consumptive patients has in several demonstrable cases been followed by the apparent cure of the disease. 12. As a valuable scavenger of the tuberculous human system, the X bacillus claims the interest of the medical profession for the further reasons that it grows in acid or alkaline media, that its product is alkaline, that it grows in the presence or absence of air, that it feeds only on *dead matter*, that it grows more quickly and has more vitality than the ordinary pus-producing germs, and reduces their number markedly after its introduction into the human system. 13. Some as yet incomplete investigations would seem to show that this X bacillus is not without beneficial effect on other than tuberculous invasion. While he thinks that many of his statements need further confirmation by better bacteriologists, and that probably some of them may fail of such confirmation, still he thought it was time to call the attention of the profession to his subject.

12. **Food Preservatives.**—Eccles further argues against the existence of the alleged dangers of salicylic acid. He quotes authorities showing that its presence in food products in quantities required for their preservation is likely to be innocuous, and assumes that the probable reason for its having such a slight effect is its rapid elimination. He also goes at length into the economic advantages of the use of salicylic acid as a food preservative.

### Boston Medical and Surgical Journal.

*January 28.*

13 *Experiments with the McGraw Elastic Ligature. Fred T. Murphy.
14 *Differential Diagnosis of Rheumatism and Arthritis. Thomas F. Harrington.

13. **The McGraw Elastic Ligature.**—Murphy gives the history of this method, crediting its earliest use to Gaston. McGraw brought out his results independently in 1891, and his communication has since been followed by various clinical and experimental confirmations of his claims. Murphy reports experiments which show that a successful anastomosis between the stomach and intestine or between two loops of the intestine is possible by this means, but it is not applicable when an immediate opening is required. The time of cut-out varies, depending on the character of the ligature, the method of application, and the resistance of the tissues in any case, but ultimately the ligature will cut out. A knot at either end of the elastic loop increases the rapidity of its action, and the penetrating of the gut by the ligature seems to cause no bad symptoms. The serous surface on the outside of the joint when completed is smooth. The anastomosis, by gross or microscopic examination, shows no evidence why there should be any greater tendency to contraction of the opening than with the ordinary methods of intestinal suture. The operative risk is minimized both as regards shock and infection. Adhesions across the opening are possible, but rare. Murphy concludes that in cases where immediate opening of the bowel is not imperative, and where the avoidance of operative shock is an important factor, the ligature may prove to be the operation of choice in gastro-enterostomy and lateral anastomosis. The article is profusely illustrated.

14. **Rheumatism and Arthritis.**—Harrington classifies the various forms of arthritis into seven species: infective deformans, osteo-arthritis, traumatic, gouty, hemophilic and senile. The diagnosis is discussed at length. Arthritis deformans is considered a good descriptive term, and is credited to some nerve disturbance for its origin. The form described by English observers as acute rheumatoid arthritis confounds acute rheumatism and arthritis deformans more than any other affection. Osteo-arthritis may start from any cause or have no ascertainable cause. The condition is a chronic one, usually affects the large joints, often unilateral, more common in men, especially old men, and tends to the enlargement of bony, not cartilaginous matter as in arthritis deformans. Any manipulation of the joint is liable to break off some of the osteophytes, while in arthritis deformans there is a false ankylosis amenable to proper manipulation. The form of osteo-arthritis occurring in the spine—spondylitis—he thinks is more common than supposed, and may produce peripheral paralysis, rarely equal on the two sides. In traumatic arthritis the history is important. Gouty arthritis has the gouty characteristics of sudden onset, and the presence of deposits in the ear, while it usually attacks single small joints. Hemophilic arthritis should be kept in mind, especially in surgical cases. It does not seem to be due to trauma, and usually occurs between the fourth and sixth years, most often in the male, generally affecting the knee and elbow. The mortality among hemophilics having arthritis is less than among the others. In senile arthritis there is a thickening of the capsule, but not of the bones; it has no relation to rheumatism, and is more stiffness than soreness. It does not involve the heart, and grows better as the day progresses.

### Medical Record, New York.

*January 30.*

15 *The Movement of Plague in the Philippine Islands. E. L. Munson.
16 Report of a Case of Brain Tumor Involving the Right Lateral Ventricle. William M. Leszensky.
17 *Contribution to Obersteiner-Redlich Theory of Tabes Dorsalis. G. B. Hassin.
18 *An Antiseptic Toilet for the Hands and Vulva. Douglas H. Stewart.
19 *Instruments for the Production of Abortion Sold in the Market Places of Paris. Frederic Griffith.
20 Scarlatinal Panotitis; Exfoliation of a Portion of the Labyrinth; Radical Operation. Carl Koller.
21 An Unusual Case of Potassium Iodid Idiosyncrasy. Henry Gathmann.

15. **Plague in Manila.**—Plague in the Philippines seems to have effected a lodgement only in Manila, and is there largely confined to the Chinese population. Munson gives statistics of, from Jan. 1, 1900, to Sept. 1, 1903, 970 cases with 812 deaths—a mortality of 83.8 per cent. Certain districts of the city seem to be almost free from it, owing to the local conditions. The mortality was decidedly less among Americans than among other classes, Europeans surpassing them in this respect. The Chinese are ahead of the Filipinos who, however, furnished a considerable proportion of cases, although but a small percentage of their total population. The disease is about six times as likely to occur in males as females, though among the Filipinos more women than men suffer. The methods of meeting the conditions are described, and seem to be very efficient. Protective inoculation has also been employed of late and demonstrated its advantages.

17. **Tabes.**—Hassin reviews the theories of tabes, showing that several of the more recent ones, such as those of Marie and Nageotte, point to the theory of Obersteiner-Redlich, which he adopts, namely, that the membranes of the cord are involved and the columnar lesion is secondary.

18. **Antiseptic Toilet.**—Stewart maintains that chlorin is the best hand disinfectant known, and gives the results of numerous culture experiments after its use. The fluid he recommends is in use in the New York Polyclinic Hospital and the City Hospital. The method used is five minutes' mechanical cleansing with powdered pumice stone, sterile hot water, green soap and wooden nail cleaners, followed by five minutes' chemical cleansing with two heaping teaspoonsfuls of fresh 35 per cent. calx chlorata and 1 teaspoonful of U. S. P. (36 per cent.) acetic acid to a pint of sterile water. If this stands for ten minutes without stirring, the necessary chemical changes are complete. He himself omits the green soap, and proceeds as follows: He takes one teaspoonful each of lime and one of powdered pumice stone on a saucer with wooden nail cleaners. He has further a basin with two quarts of "cool" water mixed with one teaspoonful each of calx chlorata, of table salt, aqua ammoniæ and carbonate of potassium. In this basin is a nail brush. He dips his hands in this solution, takes the wooden nail cleaner and applies the pumice under and around the nails. If he can not get them speckless, he then dips the wet ends into the chlorid on the saucer. He avoids getting lime on the sensitive skin, but he works it under the finger nails with the stick and with the pumice so that it gets into every possible crevice. Then he scrubs his hands, including nails, in the solution with the brush. This is the five-minute mechanical preliminary, followed by the chemical as above described. He finds that in many cases the mechanical treatment leaves the hands sterile without the subsequent chemical treatment. Clinical experience has shown that the solution originally recommended was unnecessarily strong, and he suggests the use of one teaspoonful of acetic acid and 2 of lime to the pint of sterile water. For sterilizing the vulva he uses a one-third strength, as also for compresses on sterile wounds.

19. **Abortion Instruments.**—Griffith relates his discovery of the peddling of instruments for abortion in Paris, and describes and illustrates the instruments. It would seem that local physicians knew very little about it.

### Medical News, New York.

*January 30.*

22 *Criminal Procedure Against the Unlawful Practice of Medicine. Julius M. Mayer.
23 *A New Method for Performing Intestinal Anastomosis. John W. Keefe.
24 A Fatal Case of Chorea Complicated by Endocarditis, Pericarditis and Nephritis. Augustus A. Eshner.
25 *Notes on the Widal Reaction: 1. The Question of Dilution. 2. The Influence of Jaundice. E. Libman.
26 *A Brief Note on the X-ray Treatment of Glandular Tuberculosis. Frank P. Vale.

22. **Irregular Practitioners.**—The essentials for the successful prosecution of illegal practitioners are, according to Mayer, the definition of the practice of medicine, abolition of minimum punishments and the devising of some method whereby all advertisements of irregular practitioners can be eliminated from the newspapers that are published in the state.

23. **Intestinal Anastomosis.**—The method here described by Keefe begins by severing the to-be-resected portion of the intestine from the remainder by the electrothermic angiotribe. and cutting through the desiccated strips left by the angiotribe. The desiccated ends are then united with a modified and an interrupted Lembert suture. He gives the details, and asserts that the results are immediate hemostasis, perfect asepsis, no intestinal obstruction, no eversion of mucous membrane, little danger of cicatricial stenosis, a firm strong union, and rapid operation. He has operated on dogs by this method, but in only one human case. In this the postmortem showed good union.

25. **The Widal Reaction.**—Libman has examined 1,500 cases of fever, 550 of which were typhoid. In the 950 non-typhoid cases the Widal reaction was never reported positive even with a dilution of 1 to 20. While it is possible that there were some cases of paracolon infection in the 550 cases, and the agglutination at a dilution of 1 to 20 may have been simply a group-agglutination, the mistake is not a serious one, for to the clinician a case of paratyphoid fever is to be considered and handled, at least for the present, as one of typhoid. He asks why we use the dilution of 1 to 50 when we get such reliable results with 1 to 20. He has been surprised to find in some cases a positive result with the weaker dilution while it was either negative or not clearly positive with the stronger one. He thinks this is explainable by the fact that in the dilution of 1 to 20 the lytic action of the serum is so marked that one can not obtain a clear picture, and he thinks that in performing the agglutination test it is best to use both strengths, the 1 to 20 and 1 to 50, and it is even possible that the 1 to 100 or even higher dilutions may be positive when the lower ones are negative. The second point mentioned is the reaction in icterus cases. He has made a number of experiments with the bile and serum of jaundice patients with the result that he finds nothing to convince him that jaundice *per se* can cause the positive Widal reaction. All that can be said is that while icteric serum may at times be possessed of a certain amount of agglutinating power, there is at present no definite proof that it can produce sufficient agglutination to interfere with the clinical diagnosis.

26. **X-Ray Treatment of Glandular Tuberculosis.**—Vale finds but little literature on this subject. The most satisfactory statements are in Pusey and Caldwell's work where five cases are reported with marked reduction in the size of the glands. In one, complete disappearance occurred. He reports a case where strikingly good results followed *x*-ray treatment. At present the patient is practically well. Encouraged by the results, he used it in one other case where the lungs were affected secondary to tuberculous processes in the cervical glands. The lungs were improved at the Saranac Sanitarium, but the glands had increased in size. Their removal had been thought of, but advised against for fear of bringing the tuberculous process in the lungs into renewed activity. During the short period of treatment of two weeks, they diminished appreciably in size, and a few weeks later the patient wrote that they were hardly half as large as before.

### Cincinnati Lancet-Clinic.

*January 30.*

27 Primary Lateral Sclerosis. F. W. Langdon.
28 *Macewen's Method in Amputation of the Hip. H. D. Hinckley.
29 Nasal Polypus. Dudley S. Reynolds.

28. **Amputation at the Hip-Joint.**—Of the various methods Hinckley prefers the Macewen method. The assistant, standing on the left side, places his right closed fist on the abdomen of the patient so that his first knuckle touches the upper and left border of the umbilicus. He then presses downward and toward the median line, compressing the aorta just above its bifurcation against the spinal column. If of short stature, he should stand on a stool so that he can bring his whole weight on the abdomen. This cuts off all the circulation of the affected part so that no instrumental equipment is required. The means are always at hand, and the assistant is out of the way of the operator and his other assistants. It is easy to determine the effectiveness of the compression by feeling the pulse in the common femoral of the sound side. Finally, the field of operation being unincumbered, the surgeon can operate as rapidly as he is able and form his flaps to suit his case. The embarrassment of respiration which has been given as an objection to the procedure is too temporary to be of serious import, but there may be some difficulty in obese patients. Hinckley reports a case in which this method was employed, without the loss of a drop of arterial blood, with perfect success.

### St. Louis Medical Review.

*January 30.*

30 Carcinoma Uteri. John C. Murphy.

### American Practitioner and News, Louisville.

*October 15.*

31 Treatment of Asthma and Tuberculosis by the Intravenous Use of the Fralick Fluid. Frank C. Wilson.
32 Treatment of Malarial Fever. T. Atchison Fraser.
33 Tetanus in Newborn Infants. R. B. Gilbert.
34 *Transmissibility of Diseases of Animals to Animals of Other Species. Geo. T. McWhorter.

34. **Animal Diseases.**—McWhorter discusses anthrax, glanders, hydrophobia, swine plague, tuberculosis and the bites of

venomous serpents. He concludes that the evidence shows that certain diseases of animals are transmitted from species to species without diminution of virulence. Animal life being considered cheap, the source of infection in these cases is soon eradicated and the total of human fatalities from it is not great. Other diseases of animals, such as vaccinia, are often communicated to man, mild in character and protective in influence, as are certain human diseases communicated to animals. A number of diseases of animals are transmissible to other species only with the utmost difficulty or not at all, and the parasitic carriers of the disease may be able to infect only that species from which they receive infection. Species is a great and but little understood factor in the distribution of disease. Heterolysis rather than autolysis or isolysis must be largely relied on in immunization.

### Occidental Medical Times, San Francisco.

*January.*

35 *Considerations Relative to Gastric Surgery: A Plea for Early Accurate Diagnosis. T. W. Huntington.
36 *The Treatment of Chronic Heart and Arterial Diseases by Means of Baths and Gymnastics. Josef I. Manson.
37 A Case of Hodgkin's Disease with Relapsing Fever. J. O. Hirschfelder and W. R. P. Clarke.
38 Immediate Repair of the Lacerated Perineum. Henry J. Kreutzmann.
39 A Case of Molluscum Fibrosum. George B. Somers.

35. **Gastric Surgery.**—The point made by Huntington in regard to pyloric insufficiency, gastric hemorrhage, etc., is that in any case with obscure and persistent symptoms, a diagnostic incision should be asked for and insisted on before the patient is run down and when there is reasonable hope of recovery from the section, the anesthetic and the surgical shock. Recurrent hemorrhages from the stomach that are of sufficient magnitude and frequency to interfere with the patient's general well-being can be relieved by proper drainage of the ulcerated stomach. By the same means the stomach can be relieved from the distressing consequences of nonmalignant pyloric obstruction. He believes the time is not far off when the value of modern teaching regarding malignancy of the stomach will find expression in the uncovering of an incipient malignant nodule by means of a diagnostic incision and giving a chance of relief by surgical methods; that the diagnostic incision is thoroughly legitimate and an accredited procedure. It should be resorted to with the same freedom that is exercised in dealing with the stomach contents in the laboratory.

36. **Heart Disease.**—Manson describes the Nauheim methods in detail with illustrative cases.

### Archives of Pediatrics, New York.

*January.*

40 *Lumbar Puncture in (*a*) Otitis Serous Meningitis; (*b*) Cerebrospinal Form of Typhoid Fever, and (*c*) Cerebrospinal Meningitis. Francis Huber.
41 *Abscess of the Lung Following Acute Pneumonia. A Report of Two Cases. L. Emmett Holt.
42 *Some Cases of Infantile Nephritis. F. M. Fry and Charles F. Martin.
43 *St[illegible] San Francisco. (Streptococcus [illegible] Blum.

40. **Lumbar Puncture.**—Huber reports the effects of lumbar puncture in three separate conditions, in all with good results. His opinion of the therapeutic value of the operation is strengthened by these cases.

41. **Post-Pneumonic Lung Abscess.**—Two cases are reported by Holt, operated on by aspiration. Each case followed an acute pneumonia, the abscess being recognized about two and a half months after the attack. In the first case the child was under constant observation. In the other the history of the onset was definite. In both pneumococci were present in the pus, in one case associated with the staphylococcus. In neither were any tubercle bacilli found. The indications were that the abscess had been shut off from the bronchi by inflammation; otherwise there would have been more evidence of a mixed infection. No pus was coughed up either before or after the operation. The diagnosis of the condition is discussed, showing that the physical signs are not very characteristic, but other symptoms, such as continued fever and high leucocytosis, may aid in the diagnosis. From tuberculosis, differential diagnosis may be difficult and sometimes impossible without prolonged observation, but we should remember that abscess most frequently follows acute pneumonia; that the patient may have been previously in the best of health without any exposure to tuberculosis. Wasting is a less frequent symptom, and the absence of tubercle bacilli in the sputum, aspirating pus and the presence of pneumococci assist in the recognition. The treatment in the case reported was simple. As the pleural cavity is generally obliterated by dense adhesions, as in both these cases, incision into the lung can generally be made with little risk.

42. **Infantile Nephritis.**—Fry and Martin have examined 100 infants under three months of age as regards the urine. Albumin was present in 19 cases, and 17 had also casts, hyaline and granular. Out of 100 he found that 31 altogether had casts, 14 without albumin. Of these 31, 22 were bottle-fed and 9 breast-fed. Uric acid was present in 26 cases, 14 of them with albumin and casts. Of the 12 remaining, 10 had either albumin or casts. It would seem that where uric acid was in abundance only a very few—that is, 3—escaped some evidence of nephritis or renal irritation. Of these 26, 19 died. Autopsies were obtained on 7. In each of these there was uric acid infarcts and parenchymatous nephritis. Section showed degeneration of the convoluted tubules. In 3 of the cases there was also acute interstitial nephritis. There were 6 others that gave clinical evidence of nephritis. It would appear that marasmus was not the sole cause of the nephritis, but the marked increase of uric acid would indicate a possible association between the nephritis and marasmus.

43. **Streptococcus Gastro-enteritis.**—Blum describes cases observed by him in San Francisco during the hot season with symptoms of constipation followed by diarrhea, stools characterized by mucus and blood having a foul odor, fever of the remittent type, and general prostration. The cases were obstinate, but finally recovered under treatment with calomel, salol, bismuth and tannigen. A diet devoid of milk seemed to be better in these cases than when milk was given. Castor oil was administered at intervals of four or five days. There was evidence of infectiousness in one of the cases where the disease seemed to spread in the family. In all the cases where cultures were made streptococci were present, but in only one instance was it found in pure culture. He discusses the literature of the subject, and remarks that the diagnosis can only be made positive with the microscope. Bacillary gastroenteritis is usually a severe disease, and while Booker classifies streptococcus infection as the most virulent form, it is of interest to note that all these cases, though severer than the ordinary diarrheal disturbances, ran a comparatively benign course.

### American Gynecology, Baltimore.

*December.*

44 *The Results of the Roentgen Method in the Diagnosis of Renal Calculus. Charles Lester Leonard.
45 Puerperal Eclampsia—Report of Cases, One of Which Was Treated by Cesarean Section. R. E. Skeel.
46 Vaginal Cystotomy for Stone in the Bladder. Charles R. Robins.
47 A Case of Condyloma Acuminata in an Infant. Richard R. Smith.
48 *Toxemia of Pregnancy. William S. Stone.

44. **Renal Calculus.**—Leonard illustrates the accuracy of the Roentgen rays in the diagnosis of renal calculus, and claims that the method is imperative in all suspicious cases. In any apparent attack of renal calculus no course of treatment can be undertaken without the determination of the presence or absence of stone, and the Roentgen rays should be used before every nephrolithotomy or ureterolithotomy to determine whether or not operation is necessary, and to localize and limit the operation itself, as well as to make it comprehensive and complete.

48. **The Toxemia of Pregnancy.**—Stone's principal topic is the hyperemesis of pregnancy which he attributes to a general toxemia. He classifies toxemia as mild and severe, and divides the latter into acute and subacute. The subacute includes those appearing in the early months, which after a duration of four to seven weeks terminate fatally or end in recovery: and a smaller proportion that also appear early but continue

throughout pregnancy with intervals of improvement, though likely to develop very serious conditions and even to be fatal. Of the acute types there are: 1, Cases of pernicious vomiting ending fatally in two weeks; 2, cases which, with or without previous manifestations of a mild character, suddenly become completely prostrated and die within a few hours; and 3, cases ordinarily described as eclampsia. He points to the difficulty of recognizing certain urinary changes until more improved methods of technic are generally available. The treatment on the hysterical theory is analogous to treatment of cancer by Eddyism. The drugs that are useful are few, such as calomel, salol, etc., and the absolute abstinence from either food or drink until improvement has commenced. Nutritive enemata, as well as stomach lavage, may sometimes be employed. The chief reliance, however, should be placed on injections of hot normal saline solution into the rectum at frequent intervals, according to the Behm method; it may be necessary to add half an ounce of whisky to some of the injections. In some cases it may even be advisable to employ continuous irrigation for half an hour every three or four hours, using the double current rectal tube or two separate tubes. Occasionally hypodermoclysis may have good effect. He would say that pregnancy ought to be interrupted before the appearance of black vomit or rise in the pulse or urinary changes. In the acute or fulminating type he thinks the matter of intervention is open to the most serious doubt.

### Pennsylvania Medical Journal, Pittsburg.

*January.*

49 Address in Neurology, Medical Society of the State of Pennsylvania. Chas. B. Mayberry.
50 X-ray, Light and High Frequency Electricity. Russell H. Boggs.
51 Utility of X-ray for the Treatment of Chronic and Malignant Diseases of the Skin and Superficial Tissues. Samuel H. Heller.
52 The Roentgen Rays as a Palliative in the Treatment of Cancer. Charles L. Leonard.
53 *The Roentgen Rays in Therapeutics. Mihran K. Kassabian.
54 Some Problems in Surgery. G. D. Nutt.
55 *Proctocolitis, with Special Reference to Treatment. William M. Beach.
56 A Fatal Case of Chorea Complicated by Endocarditis, Pericarditis and Nephritis Augustus A. Eshner.
57 Four Cases of Malignant Disease of the Lungs. J. C. Lange.

53. **The X-Rays.**—Kassabian classifies the results of his observations as to the effects of the *x*-rays in malignant disease as follows: 1. Class where total failure results as far as cure is concerned. 2. Class where there has been decided improvement of symptoms, alleviation of the pain from the beginning, disappearance of induration and edema, decrease in the size of the enlarged glands, the ulcerating surfaces taking on a healthy appearance, etc. 3. Cases that are totally and permanently cured; this class is small. Cases coming under this category are sarcoma, external carcinoma and epithelioma. Rodent ulcer requires the least trouble and the fewest applications. So far he has cured 16 cases without a single recurrence. It is not possible to say that recurrences will not occur, but four years have elapsed in eight or nine cases without any signs. Among other cures are cases of malignant tumor of the skin (proved by microscopic examination), of the mammary glands, and of those located in easily accessible cavities. He has had less result in curing sarcomata than carcinomata, though he has had 3 cases that have been absolutely cured. As long as a case is operable he would recommend removal of the growth, and when recurrence is noted, repeated application of the *x*-rays. Lupus vulgaris is amenable in 95 per cent. of cases, according to his experience.

55. **Proctocolitis.**—Beach sums up his points in regard to this disorder in the following:

> 1. Proctocolitis is a disease that attacks old and young. My experience and records show it to be more general in the male sex. 2. The essential symptoms are pain, constipation and membranes. 3. In diagnosis, appendicitis, malignant and pelvic diseases are to be eliminated. 4. Reflex symptoms must be recognized when they occur, as neuralgia, lithemia, vertigo, dyspepsia, cardiac irritation, asthma and neurasthenia. 5. The history of acute dysentery of bacillary origin and the neuroarthritic diathesis must be reckoned with as casual factors. 6. Ptosis of the abdominal viscera, appendicitis and tumors may be complications in severe cases. 7. The diet should consist, for the most part, of soft foods, eliminating green vegetables, fruits, fats and alcohol. Milk is the standard aliment. 8. Certain medicines are of use as indicated, but should be selected and used with great care. 9. With the above regimen the most efficient procedure is to wash out the colon.

### Texas Medical Journal, Austin.

*January.*

58 *The Controlling Influence of Environment in Epidemic Infectious Diseases. J. W. McLaughlin.
59 The Differential Diagnosis Between Yellow Fever, Dengue Fever, Malarial Fever and Acute Yellow Atrophy of the Liver. F. Paschal.
60 Appendicitis—Some Remarks on Its Pathology, Diagnosis and Treatment. F. L. Barnes.

58. **Environment in Infectious Disease.**—M'Laughlin holds that the pathogenicity of micro-organisms is not a constant, invariable quantity, but differs directly with their capacity to manufacture disease-producing substances—toxins and toxalbumins. The capacity to manufacture toxins is affected by certain natural and artificial agencies. We call such a change in the micro-organism an attenuation. These agencies are unfavorable culture media, or are conditions of life in which the germs are compelled to exist. Sunlight is a powerful, natural attenuating agent, and he thinks we are justified in believing that there are other natural means of modifying the types of epidemics. Cleanliness in the home, in the municipality, pure air, drainage, temperature, humidity, etc., are often important factors.

### Pediatrics, New York.

*November.*

61 *An Easy Method of Percentage Infant Feeding. C. W. M. Brown.
62 *Conclusions from Fifty-one Intubated Fatal Cases of Laryngeal Diphtheria. B. R. Shurly.
63 Effects and Treatment of Adenoids. H. M. DeJarnette

61. **Percentage Infant Feeding.**—Brown advises Townsend's method, published in the *Boston Medical and Surgical Journal* of March 25, 1899, as one of the simplest methods, that is, the decanting off of the upper one-fourth of milk from the total, which contains 10 per cent. of fat, with 4 per cent. proteids and 4 per cent. sugar. With 10 per cent. cream it is evident that one ounce of cream in a 20-ounce mixture would give a percentage of 1-20 of 10 per cent. or one-half of 1 per cent. of fat. In the same way the percentage of albuminoids would be 1/20 of 4 per cent., or .2 of 1 per cent., and the sugar would be .2 of 1 per cent. One more fact is needed before formulating the rule for human modification, that is, that an even tablespoonful of sugar of milk weighs 3.5 drams and each tablespoonful added to a 20-ounce mixture raises the percentage of sugar 2 per cent. It may be added that each tablespoonful of cane sugar, which may sometimes be used, raises it 3 per cent. The rule to be remembered is that each ounce of 10 per cent. cream in a 20-ounce mixture represents .5 of 1 per cent. of fat; .2 of albuminoids and .2 of sugar; and each even tablespoonful of sugar of milk represents 2 per cent. Thus if we order top milk 4 oz., water 15 oz., lime water 1 oz., sugar of milk, 2 tablespoonfuls, we are making a formula of fat 2 per cent., sugar 4.8 per cent., and albumin .8 per cent. If we order 8 ounces of top milk, 11 ounces of water, 1 of lime water and 2.5 tablespoonfuls of milk, we are making a formula of fat 4, sugar 6.60, and so on. He quotes Holt's summary of the most important indications for varying the percentages; if not gaining in weight and with no special signs of indigestion, increase the proportions of all ingredients; if habitual colic, diminish the proteids; for frequent vomiting soon after feeding, reduce the quantity; for regurgitation of sour masses of food reduce the fat and sometimes the sugar. For obstinate constipation increase both fats and proteids. Brown ends his article with the following conclusions:

> 1. The modification of cow's milk for infant feeding may safely be done at home under the care of the mother or nurse of ordinary intelligence, and is preferable to guess work. 2. It is based on the known composition of mother's milk, and also on the known dissimilarities between it and cow's milk, especially in the proteids. 3. The method of home modification and of calculating the percentages should and can be made extremely simple, and such modifications can be made sufficiently accurate and uniform. 4. The addition of cereals to the milk in the form of barley or oatmeal water is generally desirable after the seventh month, and is desirable before that age in some cases as an aid to the digestibility of the milk.

62. **Laryngeal Diphtheria.**—Shurly considers intubation the best practice in the hospital, though tracheotomy may be advisable outside, but he insists on the extreme importance of the early administration of large doses of antitoxin and the immunization of those exposed.

24 Beitrag zur myasthenischen Paralyse. L. Mohr (Frankfurt).
25 *Zur Präventiv-Behandlung des syphilitischen Primar-Affektes. E. Hollaender (Berlin).
26 Ueber urtikarielles Oedem. B. Loewenheim (Liegnitz).
27 (No. 47.) Eumydrin, ein neues Mydriatikum. Lindenmeyer.
28 *Psychiatrie und Seitenkettentheorie (and side-chain theory). W. Alter (Leubus).
29 Ueber die Bedeutung des Heroins als Anaphrodisiakum. P. F. Becker (Berlin).
30 Prevention of Disturbances in Delivery After Vaginofixation. A. Dührssen (Berlin). (Commenced in No. 46.)
31 *Treatment of Pulmonary Tuberculosis with Sanosin. M. Behr (Hölsterhausen).—Zur Behandlung der Lungentub. und über die Anwendung des R. Schneider'schen Sanosin nach Danelius und Sommerfeld. (Commenced in No. 46.)
32 (No. 48.) Zur Frage der Sigmoiditis acuta. G. Edlefsen (Hamburg).
33 Zur Methodik der Rectoscopie. H. Strauss (Berlin).
34 Akute primäre Pyelitis der Säuglinge (of nurslings). M. Hartwig (Buffalo).
35 Experiences in Surgery of Stomach. F. Krause (Berlin).—Erfahrungen in der Magenchirurgie.
36 Antituberkulose-Serum und -Vakzine. A. Marmorek (Paris).
37 (No. 49.) *Serum Treatment of Articular Rheumatism. A. Schmidt (Dresden).—Ueber die Behandlung des Gelenkrheumatismus mit Menzerschem Antistreptokokkus-Serum.
38 *Cryoscopy in Kidney Testing. W. Zangemeister.—Ueber Verwertung der Gefrierpunktserniedrigung des Harnes zur Beurteilung der Nierenfunktion.
39 Vaginale oder abdominale Operation bei gynäkologischen Erkrankungen. K. Abel (Berlin).
40 Spasm of the Vocal Cords in Children. A. Japha (Berlin).—Ueber den Stimmritzenkrampf der Kinder.
41 Ueber Darm-Tumoren in der Gegend der Regio iliaca sin. C. A. Ewald (Berlin).

23. **Salt Starvation Treatment of Epilepsy.**—Meyer's experience with 4 epileptics treated by deprival of salt and administration of bromin in the bread, was quite favorable on the whole. The seizures were less numerous and less severe during this dietetic treatment, but on its suspension they seemed to recur as previously. Bromin acne was observed in all the patients, showing that the action of the drug is intensified on this régime.

25. **Preventive Treatment of Primary Syphilitic Lesion.**—Hollaender states that cauterization without contact transforms the specific lesion into a pure granulating lesion which then heals. The difference in the reaction to this cauterization on the part of ulcus molle and of the specific ulcus serves to differentiate them. It is possible in certain cases to prevent secondary manifestations by applying this measure in time, as he has had occasion to establish in his experience with 80 cases thus treated. The cauterization without contact is with a jet of superheated air.

28. **Psychiatry and the Side-Chain Theory.**—Alter thinks that exogenous or autochthonous toxins are responsible for the seizures in epilepsy, paralysis and certain hysteric conditions, and that their action is explainable by the side-chain theory. Treatment should aim to divert these toxins into the excreta.

31. **Experiences with Sanosin.**—Behr found that sanosin had a favorable action on tuberculous subjects by increasing the appetite, but no other benefit from its use was apparent in his experience.

37. **Antistreptococcus Serum in Articular Rheumatism.**—Schmidt tried Menzer's serum in 15 cases. Six were unmistakably improved; 4 only subjectively improved and in 5 no effect was apparent. The more pronounced the reaction the better the results observed.

38. **Cryoscopy of Urine.**—Zangemeister advocates the practice of diluting the urine for functional test by the freezing-point. He shows that this ensures more accurate results and is valuable for comparison. The urine is diluted always to the same volume of fluid for equal periods of time.

## Deutsche medicinische Wochenschrift, Berlin and Leipsic.

42 (XXX, No. 3.) *Die neutrophilen Leukozyten bei Infektions-Krankheiten. J. Arneth. (Commenced in No. 2.)
43 *Ueber die physiologische Wirkung der Radium-Strahlen und ihre therapeutische Verwendung. W. Scholtz (Pfeiffer's Institute, Königsberg).
44 *Permanent Cures Afte[illegible] Operative Treatment of Traumatic Jacksonian Epilepsy. [illegible] 's clinic, Giessen).—Zur Frage [illegible]
45 Construction of Small [illegible] hitect).—Die Bauart kleiner[illegible] enced in No. 2.)

42. **Neutrophile Leucocytes in Infectious Diseases.**—Arneth has a large work ready for the press on this subject. He proclaims that all our previous conceptions of the positive and negative chemotaxis for the neutrophile leucocytes has been based on false premises. Our assumption of the importance and meaning of hyperleucocytosis and hypoleucocytosis has been absurdly false. The explanation of the phenomena observed is the destruction of the neutrophile leucocytes which occurs in varying proportions according to the degree of infection or intoxication, the resisting powers of the organism and numerous other factors. In this preliminary communication he reports the most important findings of his research on the leucocytes. It has been conducted by a new technic, which commences where all other methods of investigation stop. It has revealed that the number of the leucocytes is no criterion as to their actual normal or abnormal condition. This depends on the condition of the nucleus. According to the characteristics of the nucleus the leucocytes may be divided into five classes. He has coined a new term to express these conditions, "cytosis," or "Zytose" in the Germaan, and distinguishes between isocytosis, anisocytosis, hypercytosis, hypocytosis and normocytosis. The condition in infectious diseases is always an aniso-hypercytosis (iso and aniso are the Greek terms for equal and unequal). Our present classification of leucocytes is shown by this new technic to be arbitrary and mistaken, while the new findings reveal much simpler and more regular relations between the various forms of white corpuscles. The new findings indicate that the neutrophile leucocytes are the producers of the antibodies, but not exclusively. Arneth does not describe his technic in this preliminary communication, but intimates that it is destined to throw light on many other of the finer physiologic and pathologic processes. He is assistant at von Leube's clinic at Würzburg, and his book is now in press at G. Fischer's, Jena.

43. **Radium Rays in Therapeutics.**—Scholtz mentions that the radio-active properties of radium are not affected by heating it to white heat or melting, nor by reducing its temperature to 252 C. below zero. He has been testing 25 mg. of radium bromid in the treatment of various skin affections and tumors and conducting experiments on animals. The treatment proved particularly effective in lupus and superficial cancer. The results indicate that the radium rays produce effects closely similar to those of the *x*-rays, in some respects resembling those of concentrated light. Even if they accomplish no more than the other methods of radiotherapy, the far greater convenience of their application ensures them a wide field of usefulness. The radium can be easily introduced into the mouth, nose, throat and vagina. It may prove possible to bury a particle of radium in deep-seated tumors. A particle might also be introduced into the maxillary or frontal sinus to produce an effect on tissues below, or into the joints. Such procedures must, of course, first be tried on animals, but the prospects are promising for their application to man.

44. **Remote Results of Operative Treatment of Jacksonian Epilepsy.**—Two cases of traumatic jacksonian epilepsy were reported in 1896 as cured by an operation five years before. They have figured since in statistics as successes. Engelhardt now states that one of the patients has been cured to date, twelve years since the intervention, but in the other case, after an interval of rare seizures for three years and nearly two years of complete freedom from them, they then recurred, and in less than two years the patient was driven to suicide by their severity and frequency.

## Münchener med. Wochenschrift, Munich.

46 (LI, No. 2.) Disseminated Fat-Necrosis. C. Hart (*Dresden*)—Die multiple Fettgewebsnekrose.
47 *Influence of Salt on Gastric Digestion. M. Bönniger.—Einfluss des Kochsalzes auf die Magenverdauung.
48 Hemolyse durch Blut-Plasma und Blut-Serum. G. Bellel.
49 Die ultra-microscopische Untersuchung nach H. Siedentopf und R. [illegible] Anwendung zur Beobachtung lebender [illegible] E. Raehlmann.
50 *Trials of [illegible] of Determining Pressure in Right Auricle. [illegible]—Zur Messung des Drucks im rechten Vorhof nach Gärtner.
51 [illegible] mit Auftreten von Indigo-Roth im frisch[illegible] A. Gröber (Leipsic).
52 [illegible] posterior. P. Glaessner (Halle).
53 Importance for Urethral Injections [illegible] Between [illegible] Anterior and Posterior Urethra. [illegible] Die Bedeutung des Abschlusses [illegible] Injektionen. gegen die vordere für die Pra[illegible]
54 Ueber den histologischen und [illegible] der Typhus-Bazillen im Blut und in [illegible] Fraenkel (Hamburg).

55 *Treatment of Gastric Ulcer. M Wagner (Hamburg).—Zur Behandlung des Magengeschwurs

**47. Influence of Salt on Gastric Secretions.**—Bönniger's experiments were made on a dog with a Pawlow fistula. They demonstrated that salt has a marked inhibiting action on the secretion of gastric juice, confirmed by tests on a healthy human subject.

**50 Arm-Raising Test of Pressure in Right Auricle.**—Gaertner's new test was described in THE JOURNAL recently, page 68 Prym has been experimenting with it and states that it does not have the absolute significance which Gaertner attributes to it. Different veins collapse at different levels when the arm is passively raised, even on the same subject. The level is not determined alone by the pressure in the right auricle, but also by the elasticity of the veins, the resistance to the flow of blood and its greater or less viscosity, etc.

**55. Treatment of Gastric Ulcer.**—Wagner remarks that the aim of treatment of gastric ulcer in Lenhartz' service is always to abolish the hyperchlorhydria and likewise the anemia or chlorosis or other constitutional cause of debility, which is an almost invariable accompaniment of gastric ulcer and prevents its healing. For this reason the patients are put on a diet of concentrated albumin. This mode of treatment relieves the pains, and recovery is much more rapid and complete than with other methods of "ulcer cures" He gives the particulars of 60 cases thus treated, in all of which there had been more or less bleeding from the stomach The patient is required to stay still in bed for four weeks, using the bed pan, and the surroundings are made tranquil and cheerful An ice bag is applied to the stomach to prevent distension and to favor contraction while it relieves the pain The day of a hemorrhage the patient is given by teaspoonfuls iced milk up to 200 or 300 c c and one to three fresh, well beaten eggs, raw and cooled on ice Bismuth in suspension is also given, 2 gm. to the dose, kept up for ten days in severe cases The amount of milk is gradually increased by 200 gm at a time until by the ninth day the patient is taking 8 eggs and 1,000 c c of milk: 100 gm of rice cooked in milk is then allowed, with two rolls (Zwieback). The sixth day 35 gm of raw chopped beef is stirred in with the milk once and then twice a day afterward. Fifty gm of raw ham and 20 of butter are added to the diet the tenth day. The number of calories is thus 1,135 the sixth day, 2,168 the ninth, 2,478 the tenth, and 3,073 the fourteenth day, and when the four weeks are past, a mixed diet is allowed, the meat no longer taken raw All pains vanished on this diet by the third day in 12 cases, by the fifth in 6, by the eighth in 5, by the fourteenth in 1; one patient had a continuous pain on pressure, and 35 had no pains at all after this diet had been instituted Its chief advantages are that the pains are abolished and that the patient leaves the hospital cured not only of his ulcer but of the underlying anemia or debility of any kind Out of 25 followed to date, 18 have been in good health since; one patient has had occasional pains, but not enough to interfere with her working capacity, and 3 have had each a single transient period of pains for one to four weeks One patient absolutely refused to follow the restrictions of the course and was dismissed uncured, rejecting the advice to have the readily palpated chronic ulcer ablated. Only 2 have had any bleeding from the ulcer since, and one of these patients left before the course of treatment was complete The other has once in a long while vomited small clots, but has been otherwise in good health

### Wiener klinische Wochenschrift, Vienna

56 (XVI, No. 45) Zur Theorie der Inkubations Zeit (period) C. v Pirquet and B Schick
57 Zur Trachom Infektion L Schmeichler (Brunn).
58 Casuistica E Urbantschitsch Ear and Throat Affections
59 (No 46) Measurement of the Brain G Anton (Graz)—Gehirnvermessung mittelst des Kompensations Polar Planimeters
60 Changes in Central Nervous System in Whooping Cough R Neurath—Veranderungen im Zentralnervensystem beim Keuchhusten
61 Kraniektomie bei Epilepsien verschiedenen Ursprunges (of various origins). J Donath (Budapest).
62 *Causal Agents of Cancer. L Feinberg (Berlin)—Ueber die Erreger der Krebsgeschwulste der Menschen und Saugetiere (Commenced in No 45 See also Prowazek in No 48)
63 (No. 47.) *Zur Neurologie des Auges Infantile und juvenile Tabes O. Marburg (Vienna)
64 *Zur Symptomatologie des Diabetes mellitus W. Mager
65 *Zur abdominalen Exstirpation der hochsitzenden Mastdarm Carcinome (of rectum). T. Sato (Tokio).
66 (No. 48) *Tolerance of Carbohydrates in Diabetics R Kolisch and F. Schumann-Leclerq—Zur Frage der Kohlehydrattoleranz der Diabetiker.
67 Care of Insane at Home A. Pilcz—Behandlung von Geisteskrankheiten in hauslicher Pflege
68 Zur chirurgischen Behandlung gutartiger Magen Stenosen (benign gastric stenosis). A. Hermann

**62. Causal Agents of Cancer.**—Feinberg defends himself against the usual criticisms of announcements in this line by stating that the histosporidium carcinomatosum which he has discovered is the result of years of cautious unremitting toil, and he publishes the description of it after mature deliberation. He first argues to prove that all the facts observed in cancer speak in favor of some animal parasite as the direct cause of the growth. The latter is in reality merely the results of the process of local resistance *by the epithelium cells against the invasion of the parasite.* His histosporidium appears as a nucleus surrounded by a clear zone and this in turn by protoplasm and an enclosing membrane. It has a dual life cycle, passing through one phase in the tissues and another outside, the latter requiring considerable time. This explains why direct inoculation of substance from a cancer does not produce the growth in other subjects. The second phase of the cycle must be passed through before the parasite is ready to renew its invasion of the tissues. *No surgeon has ever been inoculated with cancer from casual contact with one, but long continued contact with a cancer subject* allows the cancer parasite to develop through its second phase and it is then ready for another invasion. The article is illustrated.

**63. Juvenile Tabes.**—Marburg reports a case of tabes in a boy of 10 *who had acquired syphilis in infancy from a nurse He also tabulates 31 other cases under the age of 21 which he has found in the literature.* He remarks that all the symptoms observed in tabes in an adult are encountered likewise in infantile and juvenile tabes, the only difference being in their relative frequency or rarity. Syphilis was positive in all but 4, and in these was probable. It was acquired in 2, but in all the others had been inherited. The coincidence or succession of several infectious diseases, scarlet fever, diphtheria and measles after pertussis, or an injury to the head, seem to favor the development of tabes in children with a hereditary burden. In some of the cases an inherited predisposition to nervous affection was noticed; in others the onset of puberty apparently favored the outbreak of the tabes Lancinating pains were noted in 21, girdle sensations in only 4, and initial headaches in 5 out of the total 35. Sensory anomalies were noticed in two-thirds of the patients, and Romberg's sign in three fourths, as also bladder disturbances In 12 there was total atrophy of the optic nerve or beginning blanching of the papillæ. In only a single instance were there no objective optic findings. In his experience, the development of the optic atrophy coincided with an arrest or improvement of the tabes. In his own ophthalmic service during the last nine months he has met with 55 cases of genuine optic atrophy, including 22 tabetics. Only 12 of these presented evidences of antecedent syphilis, and the interval since infection ranged from six to forty years, sixteen years in 3 cases. Only 7 of these 22 tabetic subjects presented the Romberg sign and there was no ataxia in any. In some, the tabes had been always mild since its inception twenty to twenty-five years before, confirming the experience of others in regard to the mildness of the cases in which optic atrophy is a prominent symptom at any time in their course.

**64. Symptomatology of Diabetes.**—In Mager's patient the pulse, from 44 per minute in a reclining posture, increased to 66 when he sat up, dropping back to 44 when he reclined The beat and curve resembled those observed during convalescence from typhoid. The necropsy confirmed the assumption of degeneration of the heart, probably from the acidosis of the organ and loss of normal alkalinity.

**65. Extirpation of High Cancer of Rectum.**—Sato mentions that he has operated on 20 cases of rectal cancer by the perineal or sacral route during the last two and a half years in his private hospital at Tokio. He describes another case in which he preferred the abdominal route. He made his incision between the umbilicus and symphysis, retaining the anal portion of the rectum, closing the upper end, after resection, making an artificial anus in the center of the abdomen. He fastened the colon in a gentle curve to the artificial anus, which allowed the feces to accumulate in it as in a pocket and thus ensured continence. The extirpated tumor proved to be an adenocarcinoma with glandular metastases, but the patient has been cured and in good health to date, more than sixteen months. By this method the anal portion of the rectum can be examined frequently and recurrences detected early. The more inaccessible the rectal cancer the more imperative the indications for this technic.

66. **Tolerance of Carbohydrates in Diabetes.**—Kolisch, in continuing his research on the dietetics of diabetics, has found that albumin is responsible for the glycosuria in severe diabetes, not the carbohydrates. He gives the tabulated findings in 4 severe cases in which after establishing by dietetic means a constant balance between the intake and output of carbohydrates and nitrogen, he then suppressed all albumin and substituted it by carbohydrates. The "standard ration" represented 2,500 calories a day, and included 250 gm. green vegetables; 200 gm. butter; 200 gm. sausage consisting of 34.1 albumin; 300 gm. lean beef; 150 gm. aleuronat bread (representing 20.57 per cent. carbohydrates), a pint of coffee, of bouillon and of wine. When the balance was established on this standard diet the albumin and meat were substituted by equal or larger amounts of potato, 300 to 1,000 gm. The supposed limits of toleration for carbohydrates was exceeded even on the "standard ration," and yet further addition of carbohydrates caused only a trifling increase in the amount of sugar or a marked reduction, when the ingestion of albumin was restricted. Even after return to the "standard diet" the proportion of sugar remained low. The albumin, not the carbohydrates, is therefore responsible for the glycosuria; the carbohydrates have only a subordinate share in its production. He thinks that these facts corroborate his assumption that diabetes is primarily due to an abnormal cleavage of the carbohydrates, induced by some toxic factor. Also that the toxic factor is due in some way to the ingested albumin. He emphasizes the necessity for keeping the number of calories down to as low a figure as compatible with normal functioning, and remarks that the benefits derived from oatmeal, potato and milk cures in the treatment of diabetes are readily explained by the results of his tests.

### *Gazzetta degli Ospedali, Milan.*

*Last indexed page 138.*

69 (XXIV, No. 143.) Sulla pretesa specificita delle nefrolisine e sulla nefrotossicita dei sieri normali omegenei ed eterogenei. E. Cioffi.
70 *Sulla terapia della tubercolosi secondo il nuovo metodo del Prof. Maragliano. G. Gemelli.
71 Grapes in Therapeutics. A. Boriai.—L'uva nella terapia medica.
72 Di un metodo complesso di cura per l'uretrite cronica blenorragica. N. Muglia.
73 (No. 146.) L'emolisina del bacillo nei colera dei polli (poultry cholera). D. Calamida.
74 *Sulla asportazione di alcuni organi abdominali e sulla soppressione completa della loro circolazione. E. De Renzi and G. Boeri (Naples).
75 *Digitalis and Venesection in Pneumonia. F. Zuccala.—La digitale ad alta dose nella cura della pneumonite lobare.
76 (No. 149.) Reducing Power of Organic Fluids. C. Molon.—Sul potere riduttore dei liquidi organici.
77 Sulle alterazioni delle tuniche venose nel processo varicoso. G. Tómaselli.
78 (No. 152.) Sopra 2 casi di emineurastenia (Beard). T. Prodi.
79 *Contributo alla ricerca chimico-tossicologico della stricnina nel sangue putrefatto (strychnin in putrefied blood). G. Astolfoni.
80 (No. 155.) Della emicrania oftalmoplegica periodica. C. Molon.
81 Considerazioni sulle lesioni traumatiche della volta del cranio. G. Stella.
82 L'esfoliazione nella pneumonite. A. Campani.
83 *Azione della formalina sul rene (on kidneys). V. Putti.
84 Caso di stenosi esofagea da compressione da lordosi osteomalacica. G. Fratti.
85 Equivalenti musicali epilettici. T. Montagnini.

70. ***Medication in Tuberculosis.***—Gemelli quotes Maragliano to the effect that the best way to test a drug is to administer it for a certain length of time to an animal and then test the properties of its serum—obtained by venesection—in respect to given bacteria. This will afford us better insight in regard to the action of the drug on the bacteria than any other method. Tests in this way of turpentine, iodin, creosote and sodium cacodylate have recently been made at his clinic. The results showed that the action of the drugs separately was almost completely negative. Gemelli has tested some of these same drugs given simultaneously, believing that the interrelations between them might affect the results observed. He also describes a case of long-standing tuberculosis in the first stage which seemed to offer prospects of a cure by medication. Sodium cacodylate was administered by the mouth and an iodo-iodid solution with guaiacol injected. The condition seemed to be improving at first, but then took a turn for the worse, and the patient succumbed to repeated hemoptyses. He is convinced that this aggravation of the disease was due to the medication, and affirms in conclusion that the experiments at the Maragliano clinic are completed by his experiences, and that they demonstrate that certain drugs, such as iodin, not only have no favorable action in tuberculosis, but are distinctly injurious. Also that arsenic, as in the sodium cacodylate, on account of its known vasodilating properties, favors hemoptysis, and it is actually criminal, in his opinion, to prescribe it in tuberculosis.

74. **Behavior of Certain Viscera After Cutting off their Circulation.**—De Renzi and Boeri have been conducting extensive research which has convinced them that the omentum can almost be said to have an intelligence of its own, it assumes such a protecting rôle when certain of the viscera are injured. (See THE JOURNAL, xli, p. 888.) It has both a plastic and a mechanical, and also an antitoxic and an antibacterial action. They now announce that when the circulation of the spleen or of a kidney is entirely cut off by ligature of all its vessels, the omentum approaches it and soon envelopes it completely. A capsule of fibrous tissue is thrown around the organ and it shrivels away and is completely absorbed in a comparatively short time. The same thing is observed in regard to a foreign body. The omentum gradually envelopes it, forming an investing capsule inside which it is either completely absorbed or remains as a harmless body. When the circulation in the spleen is only partly arrested the omentum invests it and supplements the deficient circulation by means of its own vessels. If the omentum is resected before the vessels in the spleen are ligated, the animal succumbs. The spleen, after its circulation is cut off, decays like any foreign body, and the omentum seems to have the power to neutralize the poisons generated in this process of decay. The animals showed very little disturbance after resection of the omentum if the spleen was removed, while leaving it in place and arresting its circulation proved invariably fatal. Among the numerous interesting facts noted in this research is the appearance of albuminuria and casts in the urine after the circulation of one kidney has thus been cut off. Its mate is evidently overwhelmed at first by the extra task thrust on it by this sudden suppression of the other kidney. This is not observed after nephrectomy, or at least not to the same extent, as this operation is not undertaken except when the kidney has been more or less impaired for a time, thus gradually accustoming its mate to the extra task of compensation. Hemoglobinuria is also observed after cutting off the circulation of the kidney, which he explains by assuming that the decay of the kidney generates toxins which have a hemolytic action. In nephrectomized dogs the removal of the remaining kidney did not prove fatal for sixty-eight hours on an average, while ligating its vessels entailed death in forty-eight hours. This confirms Maragliano's assumption that in uremia the symptoms observed are due more to the cellular toxins arising from the decomposition of the diseased organ than from retention of the elements of the urine.

75. **Digitalis and Venesection in *Pneumonia*.**—Zuccala has treated 14 patients with lobar pneumonia by large doses of digitalis—as much as 4-5 gm. a day in 200 gm. of infusion,

supplemented in 5 cases by venesection. The results corroborate the assertion that digitalis has marked bactericidal action against the pneumococcus. This action may be called actually specific, as it is able to save guinea-pigs against fatal doses of the pneumonic toxi-albumins, or at least long postpones the fatal termination. Clinicians need have no fear of cumulative action. Venesection is a valuable adjuvant when the toxins of the disease process are unfavorably affecting the heart ganglia, when the symptoms indicate toxemia, and there is dyspnea, when the heart has an extra task imposed on it by the extent of the process in the lungs and the stasis in the minor circulation. Withdrawal of a certain amount of blood relieves the heart and checks the progress of the pneumonic process. If dry cups and leeches do not prove sufficient, venesection may accomplish marvels, as in some of the cases he describes in detail. He drew about 800 gm. blood.

79. **Detection of Strychnin in Putrefied Blood.**—Astolfoni is enthusiastic in regard to the delicacy and reliability of Vitali's method of detecting the presence of strychnin in putrefied blood. The strychnin is easily isolated from the organic alkaloids and this isolation is not interfered with even by advanced putrefaction. The blood is first acidified with tartaric acid and heated in a water bath to coagulate the proteid substances. It is then divided into two equal parts, each of which is digested for six hours at 70 C. with twice its weight of absolute alcohol. It is then cooled, filtered and the alcohol evaporated. The aqueous residue is cooled, filtered and evaporated on the water bath, and the residue dissolved in absolute alcohol. This last alcoholic solution is again filtered and evaporated to a syrup. It is then rendered alkaline with barium hydroxid and then shaken up with four times the amount of ether. The ether is then distilled and evaporated out to dryness. The residue is yellow, bitter and alkaline. It is neutralized with a few drops of a dilute solution of acetic acid. The filtered fluid is again rendered alkaline with barium hydroxid and again evaporated with ether. This ethereal solution is then slowly evaporated on the water bath with very little heat, and the crystalline residuum is the strychnin. Vitali established by tests on animals, etc., that the strychnin thus derived is almost absolutely pure while the loss is negligible. These assertions were fully confirmed by Astolfoni's six tests of blood to which a known amount of strychnin had been added. Vitali's technic was first published in the *Bolletino chimico e farmaceutico*, 1896, No. 16.

83. **Direct Action of Formalin on the Kidneys.**—Putti injected a 1 to 4 per cent. solution of formalin directly into the kidneys of a number of rabbits. It always induced necrosis and deposits of calcium salts accompanied by trivial fatty degeneration. The connective tissue proliferates abundantly to take the place of the destroyed parenchyma of the kidney. A small percentage of albumin was always found in the urine of the animals thus treated, but neither the aldehyd nor the formic acid reaction could be obtained from the urine.

### Riforma Medica, Palermo.

*Last indexed page 138.*

86 (XIX, No. 46.) Contributo allo studio dei rumori musicali endocardici. C. Gavazzeni.
87 Bacteriology of Strangulated Hernia. A. Rodella (Zurich).—Alcune considerazioni sui risultati dell' esame batteriologico del liquido erniario in ernie strozzate.
88 Due casi di "Ulcus rodens." V. Casoli.
89 *Ulteriore contributi intorno alla eliminazione della formaldeide. E. Gianelli.
90 (No. 47.) *P[illegible] n Children. G. B. Allaria (Turin).—[illegible] ndrome tifoide prodotta nei bambini d[illegible]
91 Azione della nucleina da batterii patogeni e non patogeni sul potere battericida del siero di sangue normale. D. Enea.
92 Due casi di corea ritmica isterica. F. Sarcinelli.
93 *Enfisema sottocutaneo totale. A. Tozzi.
94 (No. 48.) Psoriasi e dermatite desquammativa incipiente; prurigo e morbi pruriginosi, nel concetto moderno. R. Campana.
95 Caso di aneurisma dell' arteria mesenterica superiore. M. Foa.
96 Meningite cerebro-spinale nei neri dell' Africa centrale. M. Levi-Bianchini.
97 Flebite simmetrica infettiva criptogenetica con sindrome polmonare grave preflebitica. A. Campani.
98 (No. 49.) Protective Action of Leucocytes Against Bacterial Toxins. S. Cappellani.—Dell' azione protettiva dei leucociti contro i veleni batterici.
99 Di un aneurisma vero dell' arteria splenica. Elastoma della tunica media. G. Tarozzi (Siena).
100 *Azione antitossica dell' iodio verso la tubercolina. O. Spadoni.
101 (No. 50.) Sulla dimetilamidobenzaldeidereazione. D. Guggino.
102 La cistectomia parziale nel trattamento dei tumori vescicali. A. Arcoleo (Palermo).

89. **Elimination of Formaldehyd.**—Considerable research has been undertaken in Italy to determine whether formaldehyd passes unmodified through the system. Tests of the urine, exhaled air and of the tissues of animals after administration of formaldehyd have absolutely failed to reveal its presence as such. [illegible]

90. **Paratyphoid in Children.**—One of the two children was 2, the other 7, and both presented the typical symptoms of typhoid fever, including enlargement of the spleen. In one there was no hyperleucocytosis and the pulse was dicrotic. In the other there were roseola patches, and other members of the family were similarly affected. The fever persisted thirty-two and twelve days, terminating with a crisis in the first case. The agglutination test with typhoid bacilli was negative, but faintly positive with colon bacilli, but the cultures derived demonstrated that the infection was due to a paratyphoid bacillus. Allaria is convinced that the typhoid bacillus, the colon bacillus and the paratyphoid bacillus are each able to produce a specific disease, the symptom-complex of which may be identical for each, but which are in reality three different diseases, etiologically considered, and they can be absolutely differentiated by the agglutination test.

93. **Total Subcutaneous Emphysema.**—Tozzi knows of no other case in the literature similar to the one he describes. A healthy little girl, 9 years old, was suddenly seized with spasms of suffocation, the laryngeal spasms and cough suggesting diphtheria, but there was no abnormal temperature. The possibility of worms in the air passage was considered and santonin given. Ascarides were voided, but the child still had suffocating spasms, with great prostration, and coughed up somewhat hard sputa, auscultation revealing râles, but nothing else being abnormal elsewhere. The symptoms were somewhat mitigated the next day, but then the neck swelled, evidently due to the presence of air in the subderma. The emphysema enlarged until finally the chest and arms were swollen in the same way to an incredible size. The eyelids became so swollen that the eyes were completely closed and the entire body was thus puffed up with an almost total subcutaneous emphysema. The parents refused to allow puncture or any intervention, expecting the child's death any moment. She remained in this condition for six days, after which the symptoms gradually subsided and in less than a month she was restored to her usual health with no traces of her peculiar experience. He thinks that the emphysema was probably due to some laceration of lung tissue in the primary laryngeal spasms and violent coughing.

100. **Antitoxic Action of Iodin in Regard to Tuberculin.**—Spadoni found that guinea-pigs did not lose in weight when tuberculin and iodin were injected together or consecutively. Either alone caused marked emaciation. He therefore assumes that the iodin has an antitoxic power in respect to the tuberculin.

### British Medical Journal, London.

*January 23.*

103 *Etiology of Carcinoma. Keith W. Monsarrat.
104 *Carcinoma of the Colon and Its Treatment by Colectomy. Bilton Pollard.
105 *Radium Bromid: Notes on Some Cases in Which It Has Been Tried. Jas. M. Davidson.
106 Case of Rodent Ulcer Treated with Radium. Gerald Sichel.
107 *The Leishman-Donovan Body and Tropical Splenomegaly. Patrick Manson and George C. Low.
108 *Human Trypanosomiasis on the Congo. J. Everett Dutton, J. L. Todd and Cuthbert Christy.

103. **Carcinoma.**—Monsarrat, in 1899, described an organism isolated from carcinoma. His researches have been continued, but were confined to carcinomata of the female breast. The organism is described at length. It was isolated from 58.3 per cent. of mammary carcinomata and was traced through two cycles of the life history, first the vegetative budding cycle, the other the sporulating cycle. When injected into animals

it is capable of infecting and inhabiting endothelial and epithelial cells. The organism initiates in endothelium and epithelium a process of proliferation as a result of which masses of new-formed tissue are built up, consisting of parenchyma and stroma, growing and extending actively from their centers of origin. The new cell-mass formation may be associated with growths in the neighboring glands and some evidence of visceral metastases was also obtained. Intracellular bodies are demonstrable in carcinomata of the breast presenting the same features as intracellular parasites of experimentally-produced nodules. He thinks the conclusion justified that the organism described is a causal factor in mammary carcinoma.

104. **Carcinoma of the Colon.**—Pollard concludes from its comparatively inactive course that carcinoma of the colon, if taken sufficiently early, can be successfully operated on with the expectancy of at least a long period of quiescence. The difficulty is to make the diagnosis early enough, it is so insidious in its beginning. In any case of chronic illness, however slight, associated with dyspeptic symptoms, a thorough abdominal examination should be made and a tumor of the stomach, intestines or other organs may be detected when least looked for. The symptoms are those of impediment to the intestinal contents. Indigestion or flatulence is of most common occurrence. When there are attacks of pain, colic, some loss of flesh, evidence of malignant growth of the bowel, and hemorrhage, a careful physical examination should be made and an abdominal tumor would probably be detected. Displaced kidney can always be returned by local pressure to its normal position, and he is inclined to rely absolutely on this sign. Carcinoma about the hepatic flexure might suggest an enlarged gall bladder and may invade the stomach and produce similar symptomatic symptoms. If there is an obstruction to the bowel it will rarely be possible to feel the growth, and the best procedure, he thinks, would be to explore the abdomen through a median incision below the umbilicus. If there is no material obstruction and the tumor can be felt, an incision should be made, as a rule, over the tumor, and long enough to allow the necessary manipulations. He insists on special care as to asepsis, as the open bowel is a constant source of infection. Pollard favors anastomosis by stitching rather than by the use of the common mechanical appliances. Seven cases are reported; all made good recoveries, though in some phlebitis of the superficial veins of the leg complicated the convalescence. It is remarkable how often this complication occurred. He has noticed it also in appendectomy, and thinks it may be due to some slight septic contamination of the blood.

105. **Radium Bromid.**—Davidson has employed radium bromid in rodent ulcer, tuberculosis of the skin and rodent cancer of the nose with decided improvement and arrest of the disease. He says it is fairly clear that radium produces profound changes in rodent cancer and that the absorption of the altered products leads to the blush that so often followed. If the exposure has been too long the blush may be succeeded by severe inflammation, resembling erysipelas, as in a case reported. He thinks it is possible that the products absorbed act as antitoxins, but there is no evidence of this. With large surfaces, care must be taken to avoid overexposing the parts to radium and to avoid constitutional disturbances. He thinks radium may prove to be a very valuable therapeutic agent, but it remains to be found in what diseases it is potent and what may be the best method of using it. In sealed glass tubes it may be applied readily to any part, be introduced into cavities, etc.; is painless in application; it does not even prevent the patient from reading, etc., when the treatment is going on. In several cases of carcinoma no specially good results occurred. He concludes by remarking that thorium, though about 1,000,000 times weaker than radium, has similar effects and can be obtained at moderate price and in large quantities. It can be used in a rubber bag and applied to the part. He thinks it would be well to try thorium in cases where radium is also being applied.

107. **The Leishman-Donovan Body.**—Manson and Low have investigated the life history of the Leishman-Donovan parasite, and think that they find in it a possibility to be reckoned with in tropical pathology. Its life history ought to be well followed out to determine how it obtains entrance into the human body. They think it is safe to assume that once in the spleen it multiplies by simple division and it gets out of the body, in all probability, through the blood current. A case of splenomegaly in which this parasite was found occurred in a European tea planter from Assam, and is reported.

108. **Human Trypanosomiasis on the Congo.**—Examinations were made by Dutton, Todd and Christy, of the parasite in the Congo region. They conclude with the following summary:

> The examination of trypanosomes seen in stained specimens of blood from cases of trypanosomiasis, from cases of sleeping sickness (typical or doubtful), in the specimens of cerebrospinal fluid of the latter cases, and in the blood of experimental animals, infected with either of the three above-mentioned fluids, has led us to the following conclusions: 1. The trypanosomes seen in the blood of man, whether symptoms of sleeping sickness were present or not, have always been the same. The number of cases in which trypanosomes from the spinal fluid have been examined is at present too small to permit of a definite description of morphologic characteristics. We have seen forms in the cerebrospinal fluid similar to those described by Bruce and Castellani, and also longer forms similar to those seen in the finger blood of the same cases. 2. None of the human trypanosomes seen, whatever their source, have presented any morphologic appearance incompatible with *Trypanosoma gambiense*. 3. The parasites seen in rats inoculated with the cerebrospinal fluid of cases admitted to the hospital for sleeping sickness are the same as those seen in rats inoculated with the blood of cases of either sleeping sickness or simple trypanosomiasis. 4. The organisms seen in the blood of rats inoculated with trypanosomes from any of the three indicated sources have up to the present shown no differences from those observed in animals infected with *Trypanosoma gambiense*. We have observed the extraordinarily long forms with prolonged flagella and the stumpy forms with short flagella, described as occurring in animals inoculated with the Gambian parasite. We have therefore no reason to suppose that the organisms seen by use in the Congo are other than *Trypanosoma gambiense*.

### The Lancet, London.

*January 23.*

109 *Old Unreduced Dislocations of the [illegible] Including Five Hitherto Unpublished Cases [illegible] in One of Which Gold Plate Was Buried for 40 Days. [illegible] B. Keetley.
110 Treatment of Diabetes Mellitus. [illegible]
111 *Certain New Methods of Blood [illegible] Indications of Their Clinical Imp[illegible]
112 Intraperitoneal Rupture of the Bladder in a Girl, Aged 5 Years; Abdominal Section; Suturing of the Bladder; Recovery. H. Betham Robinson.
113 A Case of Acute Sulphonal Poisoning. Alfred E. Hind.
114 Case of Acute Traumatic Cholecystitis. Fred J. Smith and C. W. Mansell Moullin.
115 Two Cases of Osteitis Deformans in One Family. Walter J Kilner.
116 Case of Total Extirpation of the Prostate. G. P. Newbolt.
117 Case of Veronal Poisoning. G. Fernandez M. Clarke.

109. **Dislocation of the Shoulder Joint.**—Kettley's article is an elaborate and detailed paper.

111. **Blood Examination.**—Wright describes a method of drawing off the blood into a calibrated capsule in a citrate of soda solution and how the filling in of the measured charge of citrate of soda solution can be accomplished, thus avoiding the embarrassments due to clotting of the blood, etc. He describes in detail the methods of manufacture of the automatic pipettes which are used, the procedure of drawing and examining the blood in dilution and otherwise. He says the method has no pretense to absolute accuracy, but, he thinks, that making a series of such tests yields very concordant results, considering the necessary limitations.

### Intercolonial Medical Journal of Australasia, Melbourne.

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## Original Articles.

### THE EARLY SIGNS OF PREGNANCY.

A CONTRIBUTION TO ITS CLINICAL STUDY, WITH ONE PATHOLOGIC SPECIMEN.*

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We are familiar with the usual physical signs of pregnancy in women and their relative importance, when considered singly or collectively, in influencing our diagnosis of the existence or non-existence of this condition. Some are early manifestations, while others are late in the cycle of uterogestation. These several physical signs are, according to their diagnostic value, usually classified as presumptive signs and positive signs, and, when existing, remove all doubt in a particular case, though the consideration of all necessarily delays for some months a positive diagnosis.

These signs or symptoms, though usually clear and distinct, are often obscured or modified by concomitant pathologic conditions, such as, for example, tumors, malignant or benign, within the generative area, ectopic gestation, etc., making a late diagnosis difficult or doubtful, and an early one, in some instances, practically impossible.

I shall confine this paper to the consideration of the diagnosis of pregnancy prior to and including the third calendar month, and indicate and describe a particular physical sign, which, in a very large number of cases both in private and hospital practice, I have invariably noted and which has been observed only in cases where the diagnosis of pregnancy has been subsequently positively demonstrated. This sign is observed as early as the fourth week, or possibly earlier, and consists of an intermittent softening and hardening of the vaginal portion of the cervix uteri with, in many cases, a change of color, from a pale violet to the normal pink hue, or the reverse. These changes in consistence and color are rhythmic, more or less. The alternate softening and hardening is easily detected by digital touch, while changes in color may be seen through a speculum.

These signs or processes are, in all probability, early manifestations of what is subsequently recognized as the intermittent contractions of the pregnant uterus, and are probably due to a necessity for some change or modification in the uterine circulation incident to the nourishment and growth of the impregnated ovum through physiologic intermittent congestion of the generative system.

I have never observed this sign or symptom in any other normal or diseased condition, and after careful investigation of a large number of cases, I consider it an invariable early sign of recent impregnation.

While I could cite a large number of interesting corroborative cases bearing on the subject, I will only give brief notes on a few selected ones which present different features in diagnosis.

CASE 1.—Miss —, aged 23 years, white, menses painful, scanty, irregular, leucorrhea, "thinks she has womb disease," missed last period. Examination: Left tube enlarged and tender, uterus anteflexed, size about normal, pinhole os. Sign present. Several observations made. Diagnosis, pregnancy. Patient doubted diagnosis; subsequently admitted secret marriage three and a half years before, and made public announcement, confined 230 days after my first examination.

CASE 2.—Miss —, aged 16½ years, white, specific vaginitis (confirmed by stain test), never menstruated, no morning sickness. Examination: Sign present. Diagnosis, pregnant two months. Patient asserts this to be impossible, never exposed. Was under observation at times until the seventh and a half month. Motion and fetal heart sounds noted. Patient left city for sanitarium. Subsequent history unknown.

CASE 3.—Mrs. —, aged 38 years, white, five children, menses always normal and regular, complains of constant nausea and vomiting. Examination: Bilateral laceration of cervix uteri. Uterus enlarged. Sign present. Diagnosis, pregnant about three months. Patient would not believe that she was pregnant, though she wanted another child. Menstruated regularly four succeeding months. Confined on time; labor normal, no hemorrhage.

CASE 4.—Mrs. —, aged 30 years, white, married 9 years, 4 children, youngest 3 years old; menses never regular; does not remember date of last period, often misses from one to five months; is sure she is not pregnant. Consumption in family. Asserts she has "lost one lung from hemorrhages." Abdomen very large, thinks she has a tumor, as "they run in the family." Examination: Abdomen distended with gases; perineum and cervix lacerated. Sign present. Diagnosis, two months pregnant. Patient protested and would not believe pregnancy possible, fainted and became hysterical; dismissed me and consulted another physician, who delivered her on time.

CASE 5.—Mrs. —, aged 40½ years, white, six children, three miscarriages; menses usually every three weeks, painful, profuse with clots and shreds, lasting from five to eight days, thinks she has "change of life working on her." Expected period fifteen days late. Examination: Perineum lacerated, uterus enlarged, prolapsed; cervix lacerated; left ovary enlarged, size of a hen's egg, prolapsed and fixed. Sign present. Diagnosis, pregnant between two and three months. Patient glad she did not have cancer, doubted being pregnant, flew into a passion, abusing her husband. Returned in six months, diagnosis confirmed. Lost track of case.

CASE 6.—Miss —, aged 21 years, white, shop girl, health perfect, menses always normal and regular until after two exposures three months before consulting me. Very nervous, hysterical; has had several convulsions and fainting spells. No logic field, such as vision, hearing, memory or the sexual sphere. Each of them merely signifies to me that associated with a universal loss of cellular force throughout the brain there is a more pronounced exhaustion in some cerebral area. In this area the brain cells have lost their power to rest more markedly than in other cerebral areas and, therefore, symptoms of fatigue are especially shown in the anatomic or physiologic district of the body governed by the more affected brain area. If, for instance, the cells of the frontal lobes are most impaired in their recuperative power, symptoms from the higher intellectual centers will supervene; there will be more impairment in the faculties of memory, judgment, ideas, than in the purely physical functions. If there be a more advanced stage of cellular exhaustion in the occipital lobes, vision is apt to be most involved. If the motor areas of the brain are most concerned in the cellular process, then muscular manifestations—tremors, jerkings, weakness, even to paresis and paralysis of the arms and legs—are apt to dominate the symptomatic field. However, in all of these conditions we find the associated general low state of vitality.

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* Read before the Washington Obstetrical and Gynecological Society, Dec. 4, 1903.

This is not true where we encounter those peculiar "local neurasthenic states" *unaccompanied by any signs* of a general loss of tone or lack of vitality. In these instances, by contrast, the evidence of local fag seems the more pronounced. To me the so-called "occupation neuroses" appeal strongly as being of the above type, namely, purely "local neurasthenic states." Of these, the commonest are "writer's cramp," "telegrapher's arm," etc. They are all of them dependent on local *cellular brain exhaustion*. I do not consider them in the least as peripheral nerve affections. If they were of the latter sort, they would probably be easily cured. It is because they are due to the loss of power to rest through overtaxation of the brain cells governing the affected part that these peculiar maladies are so difficult to overcome. Now the question may most aptly be asked, "Wherein lie the causes of this loss of power on the part of the brain cells, and what is the essential nature of this force which is inherent in these brain cells?" That this problem is a most difficult one to solve, everyone will be, doubtless, willing to admit, and I confess it requires no small degree of assurance on my part to attempt its solution or explanation. Nevertheless, I shall place before you my ideas on this subject. If I felt they were mere idle fancies on a most fascinating question, I should not bring them to your consideration, nor lay myself open to the censure of frivolity on a matter of so serious import.

For a number of years, through study and observation, I have endeavored to explain to myself the phenomena exhibited by patients suffering from loss of vital force. The many nervous affections coming under my daily observation have given me ample opportunity to study these phenomena. In conditions of neurasthenia especially, this occasion is most strikingly afforded, for we find so many associated processes, like anemia, deficient oxidation, and, secondarily, tuberculosis of the lungs, in conjunction with it, that we possess definite criteria by which to measure our deductions and our efforts in treatment. As to the causative factors in bringing about this loss or waste within the brain cells, they are doubtless varied and many, but each of them alone or combined seems to me to effect ultimately one condition so far as the nerve cell itself is concerned. The cell is kept in a state of circulatory overnutrition or overexcitation, whereby its contactile elements remain in activity and the cell is prevented from resting and recuperating its force. Just what this force is no one has ever fully explained, nor do I claim, beyond these suggestions, to have arrived at an absolute conception of this force which, for want of a better name, has been termed "vitality." From the above, it will be inferred that I place the brain cell on a plane similar to that of a storage battery. This is to a great extent true, allowing for the difference between a living and an inert cell. As a matter of fact, I do consider essential nerve cells as closely allied to those making up a storage battery; and, furthermore, I believe the force emanating from each is similar in nature. We know that the force emitted by the storage battery is electricity. We can not definitely say that that of the nerve cells is identical with, but there is ample reason to believe that it is similar to, electricity. Granting, for the moment, that the vital force of living protoplasmic matter is similar to, if not identical with, electricity—and there is no valid ground on which to oppose such a conception, inasmuch as no one has ever shown just what the force we call "electricity" is—then we must ask ourselves, "whence comes this force?" How are the brain cells *replenished when once they have used up their quantum* of stored-up energy? Have we elsewhere in the human system *any evidence of a power to generate electrical or electro-magnetic force?* If so, how is it carried particularly *to the cells of the brain?* We know, *with a fair* degree of positiveness, that there is no organ within the body *which can be assumed to act as a systemic dynamo*, but, on the other hand, we know with equal positiveness *that there are evidences of polarity of two kinds* within the system. There is a chemical polarity, whereby an acid medium lies in juxtaposition to an alkaline medium, as shown along the digestive tract and elsewhere, and, then, to this theory more intimate, a cellular polarity in the tissue of the blood—a living, moving tissue which reaches and nourishes every part of the organism, the brain cells included.

Two qualities are essential to a conception of polarity, namely, attraction and repulsion. We may call these technically positive and negative affinities or poles, parallel with the terms used in electro- and magneto-physics.

The red blood corpuscles show to a high degree this polarity. In health this polarity is essentially in play, for on any other supposition the peculiar attraction of the red blood corpuscles for each other could hardly be explained. It is this inherent quality which causes the "gold roll formation" characteristic of normal blood tissue. Any impairment or loss of polarity, as seen in low conditions of vitality, as in advanced neurasthenia and tuberculosis, is followed by the breaking up of this normal gold roll formation characteristic of the healthy state.

I am aware that the above idea may seem at variance with the most recent results of the *investigations* of Flexner, his pupils and others engaged in research along the lines of certain *bacterial-endo-toxins*, and their discoveries of hemolysins, leucolysins, hemagglutinins, precipitins, *coagulins, etc., in human blood* under certain conditions. Yet I do not see why any variance should really exist, or why we need believe that the existence of these toxic substances in any wise invalidates *the conception of the polarity* of the red blood corpuscles.

In addition to this quality of polarity, which I regard as *electromagnetic*, we know positively that the red blood corpuscles are the active chemical carriers of the system; that to them is due the oxidation so essential to tissue metabolism. If these red blood corpuscles are capable of carrying necessary chemical elements and bearing active oxygen to the various tissues, there seems to me no adequate reason to discountenance the idea that they may also carry other forces, possibly of an electric or magnetic or electromagnetic nature, especially as we know that these can be produced through chemical agencies. To the red blood corpuscles we must ascribe, on this theory, the fundamental generative power, or at least this power in conjunction with extrinsic influences like sun light or the energy of food stuffs, which in turn have derived their energy from the sun light. To the nerve cells we must ascribe the conserving and releasing power of this force conveyed to them either in generated form or in a form which they themselves are able to convert into energy of an electric character.

The red blood corpuscle is the fundamental unit or ion on which this theory depends, and it is on this basis, namely, the power of the red blood corpuscle to assimilate certain rays of light or to take from them certain chemical or electrochemical elements, that a method of treatment has been elaborated, the main features of which I wish to detail to you. It will, I think, appeal as a logical method, evolved out of the foregoing line of thought.

We know that the sun radiates three qualities of rays. The calorific or heat rays, for the most part lying beyond the red; the luminous or light-giving rays, such as lie between the red and the violet of the spectrum; and the chemical or actinic rays, invisible to the eye under ordinary conditions, lacking in heat but most potent in their chemical, notably, their oxidizing property. The actinic rays lie mainly beyond the violet of the spectrum, in what has come to be called the ultra-violet zone, but the violet zone also possesses marked actinic qualities. Of the rays perceptible to the eye as seen in the prismatic spectrum, the red are the hottest, the orange next hottest, and so on, till we reach the violet which, while they are the coldest, still emit the greatest light on account of their shorter wave length. All of the luminous rays, that is, those we can see, differ in wave length only. It is this difference in wave length that induces the difference in color. When wave lengths become either too long—as in the infra-red zone—or too short—as in the ultra-violet zone—they become invisible to the human eye, though not to human consciousness and human utilization.

When rays of light, whether from the sun or any other luminous substance, strike an object they do one of three things, alone or in conjunction, namely: 1, They are reflected or turned aside; 2, transmitted or passed on; and 3, absorbed or utilized by the object itself. Probably every object does all three to a certain extent, but we have here to deal only with the last-mentioned factor, the *absorption* of light. Objects differ widely in their coefficient of light absorption, but probably every object absorbs light rays to a greater or less degree. Notably is this true of the violet and ultra-violet rays, whose characteristic is chiefly chemical or actinic. It is this actinic force that we are henceforth to consider and mainly in its relation to tissues. In other words, its action in maintaining health, in the prevention of diseases and in their treatment.

I believe I have elaborated a method of great practical value, thoroughly scientific in its principles and eminently qualified to produce excellent therapeutic results, directly corresponding to those which are naturally taking place around us through the action of sunlight, and in every respect verifying on living beings suffering from various diseases, the experiments demonstrated in our bacteriologic and hygienic laboratories.

To begin with the simplest method, the action of pure sunlight. We know, and have for ages known, that where the beams of the sun are shed disease is practically never encountered. From remotest periods to the present day it has been recorded that the most salubrious locations were those flooded with sunshine, and equally as a matter of record that where sunshine never falls we are certain to find disease. Sunshine purifies everything it touches, disinfects every object it penetrates, and retards or destroys every known form of germ life, even when these germs are of the most virulent type and in the most favorable culture media.

The more the sun's rays are absorbed and the longer the exposure to the action of the rays the greater will be, and is, the effect attained; but it must not be supposed that this effect is due to the heat of the solar beams. While it is always inseparable from this quality, it is almost purely the actinic action to which is ascribable this beneficial influence. That this is true can be definitely and readily demonstrated by anyone with a large prism exposed to the sun, and with an ordinary culture tube containing almost any germ in virulent stage. It will be found that all forms of light rays have a beneficial action, but that this becomes markedly greater as we proceed in the exposure successively from the red—the hottest—to the violet—the coldest—zones of the spectrum. It is, therefore, not a thermic, but a chemical, an actinic action we encounter. It follows, then, as a matter of course, that the nearer the surface the diseased tissue lies the more readily the actinic force will become applied.

The simplest form of application is the direct sunbath, where the nude body is exposed to the sunlight. Simple as this method is, it is woefully neglected. Moreover, it is effective in almost all conditions of debility, notably after wasting diseases like typhoid. The younger the individual and the more absorptive the skin, the better the result will be. The sun-rays become directly absorbed by the tissues, the blood corpuscles coursing in the vessels beneath the epidermis, and deeper, are bathed in sunlight. The chemical action of the light unfolds itself to the extent of increasing the oxygen-carrying property of the hemaglobin, and even to the augmentation of the corpuscles themselves, both red and white. Herein we have a distinctly actinic force, the primeval actinic method available to any person, free, God-given wherever the sun may shine. Just here, however, lies the difficulty.

The sun is so frequently obscured by clouds or mists that his effect is lost to a vast degree, and we are forced to seek either a locality where atmospheric conditions are favorable or create an artificially favorable atmosphere; one where there is ample light, akin to sunshine, and best, associated with the purest of air containing large quantities of ozone, free or nascent. These two, light and ozone, are absolutely inimical to disease, to germ life in any form. They are found, as is well known, mainly at an altitude far above the sea-leved; on mountain top. Unfortunately, every invalid can not seek such localities, and besides, the factor of altitude plays an unfortunate rôle. It changes the breathing basis. If this change in the breathing basis is maintained long enough, individuals living thus must continue to dwell under similar conditions. If they pass to low altitudes, a quick relapse is apt to occur. For this reason I have been led to seek to create an atmosphere similar to that of the mountain top, rich in light and ozone, but without altitude. I have believed that this could be attained, and have steadfastly worked toward that end, assured that if successful, it would accomplish both extreme oxidation and germicidal effect, thereby covering a vast field of disease from the extreme alkaline or strumous-tuberculous, to the extreme acid or rheumatoid-lithemic. And I have good reason to believe both have been accomplished, not only as to method, but also as to results.

Ere describing this method and its uses, it will be necessary to elucidate the course of reasoning traversed toward its attainment, from its inception through a study of the sun's rays and their influence to its present state of development. Sunlight produces kinetic and potential energy in the vegetable, the mineral and the animal kingdoms, all of which bear a sort of interchangeable chemical relationship to each other. The energy of the sunlight and heat is a force at least akin to if not identical with electricity in some or all of its forms. In fact, many scientists believe on very valid grounds that electric phenomena are the direct expression of the chiefest force in nature, the transplantation rather than the transformation of the solar energy itself. At least, it is a known fact that we can accomplish with electricity of exceeding high potential almost every phenomenon attainable by the sunlight, when the rays are concentrated sufficiently, high or low. First of all, we can create through electricity a luminous or incandescent condition, vastly less in degree but exactly akin to that of the sun itself. Moreover, a body so rendered luminous or incandescent acts on other bodies in a manner exactly parallel to the action of the sun. Furthermore, experiment, research and practice have demonstrated the perfect feasibility of the conveyance of potential energy to substances or bodies, living or dead, by electricity in a ratio approximating that of the solar planet. Almost every physical or chemical property of the sun and its forces has been reproduced in miniature by electric currents in some form. Even the storage of potential energy in plants and animals, or parts of these, has been accomplished in a manner truly analogous to that exercised by the sun itself. Just as vegetable and plant life unfolds itself and grows to the full in the light of the sun, so it can be made to unfold and grow in the light created by the voltaic arc.

From this basis a method of treatment has been deduced. It is perfectly practical, absolutely safe, and if I may judge of the results attained during the five years of most careful use and development (of the method), of much importance. It is to this method that I particularly desire to call your attention. Some of you know of, and a few of you may have witnessed, the work of Professor Finsen of Copenhagen, an actinic-ray treatment of certain dermatologic leisons, like lupus, first by means of the sun's rays through concentrating lenses, and later through powerful electric-arc lamps and lenses. So far as is known to me, Finsen and his followers have directed their efforts only toward skin affections, mainly lupus, it is said with excellent results, but at least with no more and probably with less effect than by the *x*-ray method. Others, among whom may be mentioned Mount Bleyer of New York, have attempted to cure constitutional maladies, like pulmonary phthisis, along much the same lines, or with static machines of great power and electrodes saturated with formaldehyd solutions placed on the chest or other affected part. Others again have employed electric-light baths, using ordinary incandescent globe-lamps, which are perfectly worthless.

Doubtless some of you recollect that a few years ago violet panes of glass were used with this same end in view. None of these methods has, I believe, given satisfactory results, mainly because they were not practically applicable; but the underlying principle of actinic action was correct, and these failures but serve to show that for many years there have been made efforts to secure some actinic method of worth. This method, I believe, I have elaborated to a point where not only general but also local actinism associated with nascent ozone is possible. By this means it seems to me an artificially created atmosphere akin to that of the mountain top, but richer even than this in actinic qualities and ozone and without the deleterious effect of altitude, has been attained. This, and the use of specially constructed vacuum conductors, without any terminals whatever, to be attached only to one pole of extremely powerful amplifying high-tension electrical apparatus for local application, are only the claims of uniqueness I make, so far as means and method are concerned. The claims as regards therapeutic results form another and distinct chapter.

The apparatus used is as follows: Picture to yourselves a large cabinet into which the nude body is placed in sitting posture. Behind and in front of the body projecting within the cabinet are powerful specially wound arc-lamps, the durability of which is sacrificed to their efficiency. On this cabinet and separated from it, is a sliding dome to contain the head of the patient. In this dome is placed a diffuse ozonating arc of peculiar construction. This latter is connected with a compound combination amplifying apparatus in one end of the cabinet, distinct from the space occupied by the body. From the amplificator certain wires run to poles to which the conductors for local use are attached. These conductors may be called electrodes with non-conducting exterior and a conducting interior, without terminal wires or plates. Such is the apparatus without entering into details of construction. When in use, the body of the patient is flooded with extremely rich actinic light. The body being nude, the penetrative rays not only bombard the surface, but pass through the epiderm to enter the blood corpuscles coursing beneath. That they do this would certainly seem indicated by the increase in per cent. of hemaglobin and the quick augmentation of the corpuscular elements. Under treatment there is usually profuse perspiration, but the body temperature has never been found raised beyond one-half degree, so that the effect is not a thermal one, but due to stimulation of the nerve-endings.

The head of the patient is protected from the intense light to which the nude body is subjected, partly in order to insure the safety of the eyesight. The air breathed is enormously charged with free ozone, or if desired, with formalozone or eucalyptozone, or with a combination which experience has shown particularly efficacious. Attention is drawn to the fact that these elements are in gaseous form and can, therefore, enter wherever air can penetrate. I have always regarded vapor inhalations as deficient, because no vapor-laden air can enter into the deeper-lying diseased lung tissues. This only gaseous substances can do. Whenever a local application is made a very remarkable phenomenon is shown. Not only does the conductive interior become luminous, but ozone in its most powerful triatomic form is driven into the tissues and remains in situ in nascent form to liberate free oxygen at any point toward which it is directed. This I have repeatedly demonstrated in living animal tissue. The conductors are constructed in diverse forms to suit the anatomic regions for which they are employed. Thus we have those for surface application, for the vagina, for the nasal cavity, for the larynx, etc. This is, in short, the method of usage.

Now as to the affections treated and the results thus far attained. At first I was in search merely of an actinic action to assist in the restoration of lost nerve energy in cases of neurasthenia and debility, such as come so frequently into my care at the sanatorium. Experience, however, demonstrated that the method had a vastly greater range of application than I had counted on, for complicating or causal affections were either improved or cured. For this reason I began to experiment with chosen cases of various diseased conditions, such as pulmonary tuberculosis, diabetes, syphilis, rheumatoid affections, as well as distinctly organic nervous affections, and the many localized conditions so often encountered in neurotic subjects, notably acute and subacute pelvic inflammations and exudates. Certain skin affections, like eczema and psoriasis, were also treated. It would require too much time to enter into all the details at this time. I shall content myself with a brief recital of the general results attained. During the six years in which I have employed this method a large number of cases have been treated, with an aggregate of several thousand treatments. There have been failures to record in some instances, but in the main this method has given excellent and some remarkable results. Several cases of pelvic inflammations and exudates have been completely cured, some only partially benefited. Many patients suffering from catarrhal, nasal and bronchial affections have been either entirely relieved or much ameliorated. In hay-fever and asthma the results have been especially good, both under complete and local application. Several extremely severe instances of these affections have been cured, or at least the attacks overcome without sending the afflicted individuals away from home. Two cases of widespread psoriasis of years' standing were very rapidly and seemingly completely relieved. In the treatment of locomotor ataxia and other constitutional nervous diseases, the results have been far more satisfactory than by any other method I have ever employed, and I think I have used almost every method of any worth whatever.

In all stages of uric acid and rheumatoid maladies, I fully expected distinct reaction to this method, for it is essentially one of oxidation. The profuse perspiration which nearly always accompanies the actinic treatment is naturally of the greatest value whenever faulty metabolism exists, and when this is directly influenced by oxidation of the deposits and consequent solubility of substances known to act deleteriously on the system by their toxic character, it could fairly be surmised that distinct benefit to the patient would result from their elimination. Experience has shown that my expectations were completely realized. Several severe cases associated with marked nervous symptoms were entirely relieved, while milder forms recovered with comparative rapidity. It must be remembered that we deal in such conditions with an actual loss of oxygen in the molecular composition of uric acid, $C_5H_4N_4O_3$. By restoring the oxygen in nascent form solubility is recovered.

But it has been in neurasthenia and other debilitated conditions, that the best results were attained. The results have been almost uniformly excellent. A large number of cases have been treated during the past six years, and there have been few, if any, failures to report. While in every instance the general treatment, as outlined before, has been followed out, it has frequently been necessary to overcome certain local or causal manifestations by means of local actinic applications. This is especially true as regards the neurasthenic aches and pains along the spinal column and in other regions of the body.

Not only have the individual results been good, but the duration of treatment has been materially lessened, in some cases fully one-half. This is clearly evidenced by a comparison of the period during which patients remained at the sanatorium before and since the inauguration of this method at "Norways."

The most gratifying results have been attained by this method in pulmonary tuberculosis. I am fully aware that in making this assertion I am treading on ground which has been for years worked on and in which some glowing medical failures have been a matter of record. Nevertheless, I am prepared to assert positively, and hope eventually to prove by future results, that in all cases of lung tuberculosis where the disease has not advanced too far, complete cure will result from the proper methodical use of the actinic method. The cases heretofore treated, while not a few in number, may still be considered insufficient to bear out my claims in the minds of the profession at large, for we are all naturally skeptical whenever a new cure, however positively stated and no matter how reliable the source, is called to our attention. To my mind, however, a dozen cases carefully followed out, both clinically and pathologically, with careful blood and sputum examinations at frequent intervals during the course of treatment, are as reassuring as a hundred, where the results gained are so eminently complete.

In the cases of phthisis heretofore treated, these results have been as follows: In every incipient case and in every case where the process had not passed beyond what is commonly termed the first stage, there has not been a single failure to record. Almost from the commencement of treatment a noticeable improvement showed itself. Expectoration and cough—which at first may be augmented for a time—decreased, appetite and weight increased in spite of often profuse sweating during the ten to twenty minutes of body exposure, and gradually the physical weakness disappeared. In from ten days to three weeks the blood examinations revealed a notable increase in the number of red and white corpuscles, sometimes multiplied several times. The per cent. of hemoglobin increased markedly. The sputum grows thinner and more profuse at the start, but gradually decreases in volume, with a corresponding decrease in the number and final disappearance of tubercle bacilli and other micro-organisms of mixed infection. It is to the septic influence of the latter that so many of the associated clinical symptoms of consumption are due. In fact, I wish here to record the decided opinion that tuberculous affections *per se* are not nearly so dangerous or so fatal as the profession believes. Nor is pure tuberculosis a febrile disease. It is only where there is a mixed infection with the germs of ordinary sepsis that fever obtains, that rapid advance in the malignant process occurs; and usually here only that we meet with a fatal end. Unfortunately, this mixture of infection usually takes place. It is in overcoming the complicating septic condition that gives this method its greatest value and permits the restoration of the wasted energy to these patients. It is unnecessary to further speak of the immense advantage thus gained toward the extinguishing of the tuberculous process itself. Patients suffering from more advanced stages of tuberculosis were much benefited, and some seemed on the verge of recovery, but continued to manifest distinctly characteristic symptoms.

I have tried this method of treatment in cases of far-advanced phthisis with cavity formation. Only the complicating symptoms were relieved, especially when formo-eucalyptozone was used. Cases with strong tendency toward hemorrhage are probably unfit for this method of treatment, though no bleeding of magnitude had occurred under my observation. I have been careful to select the cases and have not allowed anyone I considered a dangerous subject to be treated. However, I have shunned no case of pulmonary tuberculosis which I felt might be cured by a long sojourn in Colorado or elsewhere, and in several instances I have taken cases into treatment which I should not have risked sending into high altitude. It is to the absence of altitude that this method owes its absolute safety. Everything else that the condition of the Colorado mountain atmosphere gives, seems to be abundantly supplied by the actinic rays of light and the free ozone.

In addition to the general treatment as previously described, local applications on the chest over the affected areas in the lungs were invariably given with a view toward sending ozone, in nascent form, directly into the diseased tissues by means of the glass electrodes. Nascent ozone is an extremely active germicide, and in addition liberates free oxygen *in situ*. Doubt will probably be expressed as to anyone's ability to send nascent ozone into any given part of the deeper tissues, on the ground that electric currents diffuse themselves along the paths of least resistance beneath the skin. This is quite true for ordinary currents, and to a lesser degree of this method also. The currents used are, however, of such high potential, and as the actinic rays travel along approximately straight lines after deliverance, the usual rule does not apply here. Experimentally, I have sent ozone into animal tissues and found its presence there by chemical reaction. It is a common comment of patients thus treated that they can taste the peculiar effect of the ozone in the expectoration long after the external application has been made. Nor does the effect of this treatment seem evanescent or lacking in ultimate permanency, for those patients who had recovered showed no marked tendency to relapse, even where they were not as cautious as they should have been.

Some of you may very reasonably ask why I do not give full statistics of all cases treated during these years. My reasons for not giving more detailed statements regarding them are two-fold. First, too much time would be consumed thereby, and, second, they would be questioned no matter how complete they might be. Everything savoring of newness and importance in the medical world is with perfect justice regarded with skepticism by our profession at large, in part because the enthusiasm of investigators and observers so frequently carries them too far. I have tried to be as conservative and moderate as I feel the importance of the subject and the results heretofore gained would warrant. As remarked before, what the actinic method as here described accomplishes after this perfectly frank statement of its worth, as I and others regard it, must be the sole criterion of its value and utility.

## SUMMARY.

To summarize what has been brought forward to-day, I conclude:

1. Actinic rays are chemical in their quality, but of small caloric value.
2. They exist mainly in the ultra-violet zone of the spectrum.
3. Actinic rays derived from high power electric lights are similar to or identical with those of solar origin.
4. Their use is as rational as that of sunlight itself.
5. Their value lies in their decomposing, but at the same time reconstructive molecular action on the body tissues, mainly the blood elements.
6. By the method herein spoken of their activity is enhanced by the generation of ozone in free and nascent form.
7. Their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system.
8. The germicidal action is especially pronounced on account of the fact that few germs can exist in the presence of free or nascent oxygen in either biatomic or triatomic form.

## DISCUSSION.

Dr. D. I. Wolfstein, Cincinnati—How long has this treatment been used, and what is its general effect on diseases of the nervous system?

Dr. John Punton, Kansas Cty—If Dr. Sterne has succeeded in finding a method that will cure these cases of neurasthenia he has conferred a great benefit on mankind and the medical profession. I am glad to hear that he has not had any failures.

Dr. William J. Herdman, Ann Arbor, Mich.—There is no doubt a physical explanation of the action of the nerve cells. At our Denver session I presented a paper on the dynamics of the nervous system, and I am glad to find that an independent course of thought has run nearly parallel with my conception of what takes place in the nerve cell, both physiologically and pathologically. I doubt if we will ever fully explain this to ourselves—this complex problem of the constitution of the nerve cell and its activity. Dr. Sterne is getting exactly the same results from the actinic rays that are secured from the high-frequency current in many of its forms, which were demonstrated years ago by Brown-Séquard and others. We all know that the simpler forms of the electric current have certain physical effects on the organism. It will produce physiologic contraction of contractile tissue. It will also cause a movement of the fluid constituents of the organism from one part of the body to another, in the phenomena which we term cataphoresis. This is done by means of the direct current. The indirect current, in the form of the induction coil, also has a wide range of usefulness, largely due to the difference of potentiality and the frequency with which the interruptions take place. Those are what we term the gross effects. Now, when you begin to increase the potentiality and the frequency of the alternations, you reach a point where nerve tissue, as such, can not respond or where protoplasm or muscular tissue can not respond. About ten thousand alternations per second is the limit. But the alternations of the high tension, high-frequency current run up into the hundreds of thousands. We know very well that molecular activities, either organic or inorganic, are almost infinite in the number of vibrations that may take place. In these glass tubes, such as the one shown by Dr. Sterne, the molecules are bombarded to and fro, and this molecular action is directed by the electric current. Some are positive, others are negative, and they are changed in their direction by reason of their polarity. Why not assume that the same thing is going on in the molecular activity of every cell organism of our body? The little molecules that make up a nerve cell are continually undergoing these vibratory motions. It is this activity that produces what we know as vital action, and by employing an apparatus like this we are getting to a point where we have a process which we can apply and which will adapt itself to those molecular movements. It shows that we have something or other which is modifying the nutritional activities in the molecular field. Whether or not we have heard the true explanation from Dr. Sterne to-day I do not know. I have used this method in various conditions of the skin and other parts, but not in the manner he has described. There is no doubt, however, but that we can control nutritional activity better in that way than in any other. I feel that I have a therapeutic agent in the high-frequency current that fully meets the requirements.

Dr. C. C. Hersman, Pittsburg—What effect can we expect from the high-frequency current beyond the point where muscular and nervous tissues fail to respond to its stimulus?

Dr. F. W. Langdon, Cincinnati—Dr. Herdman's statement, if I understood it correctly, was that there was no effect on muscular contraction, but that there may be a marked effect on metabolism without visible contraction.

Dr. A. E. Sterne—I have brought up this subject after five years' careful work in this field. The work is still incomplete. I do not entirely understand these phenomena, which I have repeatedly seen demonstrated. I understand the application thoroughly, but I can not explain the demonstration. In acute coryza, with the nasal cavity almost completely occluded, the application of these rays will act exactly like cocain. It will cause tissues to shrink, and I have seen exudates in the pelvis disappear under the action of this tube with the alternating current passing through it. It apparently sets the mass into molecular action, and thereby results in such an amount of energy as to bring about a natural absorption through the circulation.

# SOME TOXEMIAS IN RELATION TO THE PRODUCTION OF NERVOUS AND MENTAL DISEASES.*

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There is to-day no specialty in the field of medicine which presents more difficulties and dissensions among alienists and other scientific investigators than the satisfactory diagnosis, comprehension and treatment of disorders relating to the nervous system. Although more than two centuries have elapsed since Hippocrates prepared a foundation for the science of psychiatry, a rational and universally acceptable conception of diseases presenting symptoms referable to disorder in nerve structure or function, has not been reached.

It can not be denied, however, that, when the cause of a certain morbid process is discovered, the treatment of the case can be made more rational and effective. If we as clinicians, would be more thorough and studious in the consideration and investigation of a case, instead of treating it along general text-book rules, the treatment and progress of the disease would resolve itself into a more rational and less difficult problem.

I am in hearty support of less empiricism and of more rationalism in therapeutics. It is often found necessary and more convenient to treat certain disorders symptomatically, but in my chosen specialty I have gained more satisfactory results, through a careful study of the patient as a "whole," than, so to speak, "in parts."

A comprehensive and working knowledge of physiologic chemistry, bacteriology, pathology and physical diagnosis must aid our clinical experience.

### AUTOINTOXICATION AN IMPORTANT FACTOR.

Before carrying out the systematic treatment of nervous and mental cases brought to my attention, I ascertain, so far as can be determined, the condition of the various organs and functions underlying the vital processes, and I may safely assert that in general, I have been able to discover at least one organic or functional disorder in the individual, which, if rectified, helped to facilitate a correct diagnosis, treatment and the ultimate recovery of the case.

And this leads us to a concise discussion of the subject of autointoxication as a factor in the production and prolongation of certain nervous and mental manifestations, together with a few words on the development of autotoxemias resulting secondarily from the introduction of poisons of external origin into the otherwise healthy organism.

The views I will here set forth have been gained from practical experience during the past ten years, aided and stimulated by the opinions and observations of other interested workers in this field.

Bouchard and his pupils deserve much of the credit for the widespread interest and practical results which have arisen through a study of autointoxication. Although the statements and theories elucidated by him have not all received acceptance and substantiation, he has prepared the way for a broader and more rational conception concerning the causation of disease in general, and of nerve and mental disorders in particular.

### WHAT IS AUTOINTOXICATION?

The conception of autointoxication is not merely an attractive hypothesis, since positive facts have been brought forth in defense of this theory, and new evidences are being adduced from the field of physiologic chemistry, physiology, pathology and bacteriology, thus lengthening and tightening the already large chain of evidence. The accepted definition of autointoxication is a poisoning of the organism by the products of its own metabolism, which substances may be either normal in character, but abnormal in quantity, or abnormal in character.

I wish to state in the beginning that I do not agree with the extremists who strive to ascribe nearly all diseases of nervous origin to autotoxins of some kind or other. In many cases other processes are undoubtedly the productive factors, such as mechanical injury to nerve structures, pressure from tumors, the transmission of a hereditary tendency towards incomplete or defective cell growth or function, etc. The subject is a most difficult and comprehensive one, and we can not be too cautious in accepting conclusions favoring our theory, hastily, and without facts to substantiate the same.

### FORMATION OF AUTOTOXINS—LEUCOMAINS.

Bouchard aptly says that the human body is both a receptacle and laboratory of poisons. These are found in the food, are formed during the processes of normal digestion, are formed in the tissues and fluids of the body, and still the healthy individual is not poisoned. There are continually being formed in the body, under normal conditions, certain products resulting from metabolic processes, and if these accumulate in large quantities, disease may result. These substances have been termed leucomains, products formed in the tissues, not through the intervention of bacteria, but through fermentative processes or retrograde metamorphosis. Leucomains are basic in character, but their unstable constitution makes it evident that the isolation and identification of these products from the blood and tissues, and their injection into animals for the purpose of eliciting symptoms of poisoning, is a most difficult problem and often impossible of accomplishment.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

The leucomains have been divided into the uric acid and the creatinin group, the xanthin bases being representative of the former. The excretions of the human being are toxic, even though the individual partakes only of chemically pure, and bacteria free, air, water and food. These poisons must originate somewhere, and scientific investigation has traced their origin to substances resulting from the disintegration of cells, *namely, leucomains*. The hydrocyanic radicle is found as a frequent constituent of the leucomains, which may explain a portion of their poisonous action.

While certain organs or cells are occupied in manufacturing poisons, others are engaged either in arresting and excreting these poisons, or in chemically changing them into useful or harmless bodies. On these organs of defence, therefore, rests the responsibility of so disposing of the poisons continually being formed in the body, that the latter may become innocuous to their deleterious action. These organs of defense perform their duties faithfully when all the bodily functions are acting normally and in harmony, and when no excess of noxious matter is introduced from without.

Thus autotoxemias as a rule result from some disturbance between the formation and the destruction or excretion of these internal products of metabolism, there resulting an accumulation of these products in the tissues and circulating fluids. It is the function of certain organs, therefore, not to make it possible for enough toxic material to accumulate in the blood to give rise to systemic disturbances, either acute or chronic in nature.

### ORGANS OF DEFENSE.

These organs of defense have been divided into two kinds—those of transformation or arrest, as the liver, gastrointestinal mucous membrane, spleen, lymph glands, adrenals, thyroids, etc. These possess the power of opposing the various foreign and poisonous substances brought to them by the blood and lymph, and of converting them into non-toxic and non-assimilable bodies, or of filtering out and rejecting them entirely, as represented by the liver and its secretion, the bile.

Then we have the organs of elimination, such as the kidneys, lungs, intestines and skin, whose duty it is to remove from the circulating fluids such toxic substances as either escape the organs of arrest or are formed later in the muscles and other tissues.

The present conception of autointoxication is therefore dependent on a disorder of the normal metabolic processes above described, and undoubtedly it supplies a reasonable explanation regarding the origin of many complex neuroses hitherto left unexplained.

### PRODUCTION OF STRUCTURAL ALTERATIONS.

That structural alterations are produced in the various organs of the body by the continuous action of these poisons of internal production, especially on so delicate a structure as the neuron, has been conclusively proved. Pathology has demonstrated the retrograde metamorphosis resulting from the action of mineral and vegetable poisons on the organ and cell, and the more recent work of Van Gieson and others has shown us the destructive effect of certain autotoxic poisons on the nervous structure. He has very aptly compared the brain to the kidney in the reaction of its organic constituents and functional power. The renal stroma is likened to the neuroglia, and the parenchyma to the nervous system, and it has been conclusively established that toxic products elaborated through the action of autotoxic bacterial and other external agents, do produce such cell and functional changes.

Autopsies have clearly demonstrated that acute parenchymatous degeneration of the brain caused by toxic agents explains the secondary factor in the causation of many acute mental and nervous diseases, while the subacute and chronic forms are due to a more extensive alteration in the neural parenchyma, caused by the prolonged action of these poisons. For instance, a cortical cell has a well-defined minute structure and function, the granular constituents being the reservoir of cell energy. When death has supervened from secondary causes after severe epileptic convulsions, these cell granules are found to be altered, being broken up through the action of abnormal or toxic substances, the functional indication being an uncontrollable and violent explosion of nerve force in the form of convulsions. If these toxic agents can be removed or decreased, through proper treatment, the cell resumes its normal function; if prolonged, the nucleus and then the entire ganglion cell and characteristic function becomes disintegrated and beyond repair.

### VARIOUS SOURCES OF AUTOINTOXICATIONS.

Inasmuch as the majority of nervous and mental disturbances due to autotoxemias have been found to owe their origin primarily to the stomach, intestines, liver, kidney and various glandular organs, only brief mention will be made of other sources of intoxication, as the lungs, skin and circulatory apparatus, the latter reacting more often to toxins originating in the former class. Autointoxications may also occur primarily from disturbed metabolism in the lungs and skin. We will not include the many disorders resulting when the lungs become primarily diseased in structure and function, through bacterial agencies, such as tuberculosis, etc., in which a distinct toxin is formed by a germ and exerts a deleterious influence on the nervous mechanism.

### AUTOINTOXICATION FROM SKIN DISORDERS.

Likewise the skin may present exanthemata indicative of a disturbance originating in some other organ, as the alimentary canal and kidneys. I have frequently observed eczematous conditions in chronic nephritis, which improve or disappear as the kidney functions progress under proper treatment. The formation of blebs, urticaria, itching and tingling eruptions, etc., yielding readily to regulation of the alimentary canal, may be observed; but these manifestations must of course be classed as secondary phenomena of a primary autotoxis elsewhere. The lungs and skin may, however, be the primary mischief makers. When placed under improper hygienic conditions, atmospheric and other changes, the lung cells, and in case of the skin, the oil and sweat glands, may not functionate properly, and the various products of disturbed metabolism and the excretory substances may be reabsorbed into the organism, reacting in excessive amount on the nerve elements.

### TOXICITY OF SWEAT.

That human sweat is toxic, there can be no doubt, inasmuch as it carries with it waste products from the circulation and tissues. Arloing has performed some experiments on the toxicity of human sweat on the lower animals. He finds that it exerts a depressing influence on the circulatory and respiratory organs, stimulating the vomiting center in the medulla and also causing cachexia. He has found sweating a valuable agent in overcoming autotoxic conditions.

### DISTURBANCES IN BLOOD AND CIRCULATION.

A functional inactivity of the nerve and gland terminals in the skin may result from a prolonged action of the retained products of its own secretion and excretion, which may exhibit itself both in trophic and inflammatory disturbances local in character or more systemic through reabsorption. A disturbance in the function of the circulatory apparatus, and especially in the composition of the blood, is both a starting and distributing factor in the origin of autotoxemia. Thus deficient nutrition to the cell, resulting in the production of toxic products from the impaired metabolism, will follow. A persistent tacycardia may be present, while other toxins may have an opposite action in slowing the pulse, probably through their action on the cardiac centers in the medulla, or else directly on the cardiac ganglia themselves. The selective action of certain drugs and poisons for certain centers and tissues alone, leaving other structures undisturbed, is a well-established physiologic observation; autotoxins which either increase or slow the heart rate may have their analogue among vegetable poisons, as in atropin and muscarin. Other anomalies of the circulation are iregularity of the pulse, flushing of the skin, cyanosis, coldness of the extremities, etc. Many of these symptoms may be due, of course, to the action of poisons formed in the various organs, as well as to those originating primarily from a disintegration of the red and white cells and other blood dyscrasias.

Time will not permit me to discuss the action of detrimental products which may result from a changed metabolism in the various glandular organs, such as the spleen, adrenals, lymphatic glands, etc., and I will therefore content myself with a few remarks concerning the salient features of thyroid disturbance.

### AUTOINTOXICATION FROM THYROID DISTURBANCE.

The employment of thyroid extract in certain nervous and mental disorders furnishes another link in favor of the autotoxic theory. The thyroid gland pours its colloid secretion into the circulating fluid, and when this is either altered in quantity or quality certain nervous and other symptoms develop, pointing towards a disordered metabolism in the gland. The two theories most widely accepted and substantiated, relative to thyroidal function are, that it either furnishes a secretion essential to normal metabolism, or that it pours some chemical substance into the organism, which acts as an antitoxin to the poisons formed and liberated during metabolic action, and changing or destroying deleterious substances circulating in the blood.

### IMPORTANCE OF THYROID IN METABOLISM.

The effect of thyroid extract on metabolism has been conclusively established by Baumann, Horsley, Hutchinson and many others. Laboratory experiments have demonstrated that extirpation of the thyroids and parathyroids in animals, results in characteristic nervous manifestations, convulsions, paralysis, cachexia, dyspnea and death. It has been observed that the thyroid glands are often atrophied in certain nervous and mental troubles, and this led to its employment as a remedial agent. In the palliation and removal of certain systemic disorders no more brilliant results have been obtained in internal medicine than by the administration of this medicament when rationally indicated.

The employment of thyroid extract in cachexia thyroepriva, myxedema and cretinism, has given wonderful results. The cachexia, weakness and heaviness in the limbs, dulness of tactile sensations, retardation of muscular action, difficulty in thinking and general decrease in mental and intellectual power, are all either dispelled or greatly improved while administration is continued.

Poehl has performed experiments showing that spermin is found in the thyroid, pancreas, testes, etc., and is at least one of the agents which maintains the oxidation powers of the organism at normal height. In the case of the thyroid secretion, however, it has been practically demonstrated that an organic iodin compound is the active principle. When this latter is isolated from sheep glands and administered to animals on whom thyroidectomy has been performed, there ensues very soon a subsidence of all the nervous symptoms.

Many investigators as well as myself have employed the extract where a disordered or arrested metabolism has been considered to have resulted from disturbance in the thyroidal secretion, with the utmost and surprising and successful results. I have obtained very beneficial effects from its employment in stuporous conditions, melancholia and mania.

### A CHEMICAL AND PHYSIOLOGICAL STUDY OF THE URINE IN HEALTH AND DISEASE.

A chemical and physiological study of the urine in health and disease adds corroborative proof to the theory that normal urine is toxic. Laboratory experiments have also demonstrated an excess of toxic material excreted in the urine during and immediately following retrogade cell changes. Bouchard has demonstrated that urine secreted during the hours of activity is more toxic than that secreted during rest. . In toxemias there naturally exists a tendency to accumulation of waste products in the body, and a study of the urine therefore offers a splendid field for investigation of the toxic products and the possible reason for their appearance and locality of their origin.

### POISONS IN NORMAL URINE.

Although all of his experiments have not been corroborated, it is generally agreed that normal urine contains at least seven isolated poisonous principles which he has experimented with on the lower animals. These consist of a diuretic, a narcotic, organic and soluble in alcohol, a sialagogue, also organic and soluble in alcohol, two convulsants, one organic and insoluble in alcohol, the other a mineral, potassium, a myotic, organic in nature; seventh, a temperature lowering principle, organic, insoluble in alcohol, diminishing heat production.

### EXPERIMENTS WITH URINARY POISONS.

He performed extensive experiments on animals, administering through different channels varying amounts of both normal and abnormal urine, as well as each of the seven isolated products, eliciting characteristic symptoms. All of these principles have as yet not been definitely analyzed, and beyond any doubt both normal and abnormal urine contain still other toxins as difficult of isolation and analysis as are the tetanus and other bacterial toxins.

### PUERPERAL ECLAMPSIA.

The most plausible explanation of the exciting cause of puerperal eclampsia is that of an autotoxis. During pregnancy there is certainly a greatly disturbed metabolism, and when the waste products are held back by the excessive work thrown on them, as shown by the frequent occurrence of albuminuria, the retention of these katabolic agents will account for the severe epileptiform attacks. Impaired elimination of the convulsive principles would be also sufficient to produce eclampsia. Von Jaksch has done some work along these lines, and has shown the convulsive effect of acetone and its presence in the urine during the later stages of pregnancy. He even goes so far as to describe a typical "eclampsia acetonica."

### URINE IN EPILEPSY.

An examination of the urine in epilepsy has developed some valuable facts. That certain otherwise unexplainable forms of epilepsy are due to poisonous products of disturbed metabolism is the present consensus of opinion of Futcher and other interested investigators. Experiments showed that the urine of certain epileptics is hypertoxic about the time of the attacks, its tenacity being much greater than during the interparoxysmal period. Deutsch, Jaksch, Wyner, Kranisky and others report cases of epilepsy due to the periodical formation of acetone and ammonium carbonate.

Hippocrates was the first to relate the fact that the intercurrence of an infection or fever frequently suspended epileptic attacks for a time. Bourneville. Toulouse, Marchand and others have written careful observations concerning the most common infections, which have suspended epileptic attacks for a time, some cases being permanently benefited. *Pneumonia*, erysipelas, malaria and typhoid fever have been found to result in benefit to the primary disturbing disease process. An explanation for this might be that during the occurrence of these infections, bacterial toxins acted detrimentally on the cell structure, katabolic processes resulting thereby. During recovery from the infection, anabolic processes resulted; the cell was rebuilt and returned to a more normal condition. The toxin which originated epileptic attacks during the primary disordered metabolism, was thus either neutralized by or eliminated with the bacterial poison.

### URIC ACID DIATHESIS.

A study of the urine in neural disorders would not be complete without a reference to the uric acid diathesis. I have found an increase of this excretory product in the blood and urine of many cases under my supervision. An increase of this leucomain is discovered to be the disturbing factor in many forms of disordered metabolism. Uric acid is closely related to the xanthin bases, and both are derived from the nucleins contained in the cell protoplasm. The xanthin bases result from a decomposition of tissues rich in nuclein; but the nucleins must first be partially oxidized before being decomposed in order to split off the uric acid.

Uric acid must therefore be considered as a specific waste product of nuclein decomposition. The term "collemia" has been applied to the presence of large amounts of uric acid in the circulation. An excess of uric acid has continually been observed in such disorders as neurasthenia, migraine, epilepsy, chorea, etc., especially immediately after the attacks.

We have here a clear demonstration of an autotoxemia, a nutritional disturbance resulting from faulty metabolism, brought on by unhygienic influences, errors in diet, excessive consumption of alcohol and nitrogenous food, etc. As resulting symptoms, we see headache, neuralgia, melancholia, lack of thought concentration, depression, mental irritability and excitability. The benefit obtained following the neutralization or elimination of the excesssive uric acid, strengthens the conclusion that this is the disturbing waste product.

### RELATION OF DIABETES TO AUTOTOXEMIA.

Certain forms of diabetes are among the concomitant manifestations of neurotic disorders. Where no other definite causes can be disclosed, it can be reasonably suggested that there is present a faulty metabolism located especially in the pancreas, so that the glycolytic ferment is not properly poured forth as regards quality and quantity. Dependent on this, the glycogen can not normally be assimilated into the organism. Extirpation of the pancreas in animals results in glucosuria, which strengthens our belief that the pancreas pours a glycolitic ferment into the circulation. There is certainly present an extensive disturbance in cell function, as shown by the large increase in the urine, of b-oxybutyric acid, aceto-acetic acid and acetone—all evidences of increased protein destruction. The presence in the circulating fluids of these bodies may account for many of the neurotic symptoms, as headache, neuralgia, numbness, delirium, and the symptoms of *diabetic coma*, somnolence, dyspnea, etc.

The similarity of the attacks to uremia would indicate the presence of some autotoxin in the blood. The most widely accepted theory that this substance is acetone, is substantiated by the presence of large quantities in the urine and its odor in the breath. The fact must not be ignored, however, that the preliminary poison causing a disturbance in the pancreatic metabolism may originate from poisoning through intestinal toxemia.

### UREMIC AUTOTOXINS.

Uremia is undoubtedly the result of an autoxemia, but what the toxic agent is and how it acts has not yet been satisfactorily demonstrated. The symptoms which may occur in uremia, such as convulsions, headache, restlessness, delusions, maniacal and melancholic states, local paralyses, itching of the skin, numbness, tingling in the fingers, etc., are all suggestive of a toxic agent as the malefactor.

Bradford, in his Goulstonian Lectures for 1898, has gone into the subject of uremia extensively, and comes to the conclusion, deduced from careful laboratory and clinical experience, that the toxic substances which are present are not the retention products resulting from normal metabolism, but that there is formed an abnormal product of a disordered metabolism, which is poured into the circulation. What this substance is, investigators have not as yet fully agreed upon. It has been found that the percentage of urea is greatly increased in many cases of chronic nephritis with uremia, but it is probable that more than one toxic agency is at work, to account for the formidable symptoms developed. Here, again, as in diabetes, poisonous products absorbed through intestinal toxemia may originate the manufacture of the uremic poison.

### THE GASTROINTESTINAL CANAL A FREQUENT SOURCE OF AUTOINTOXICATION.

The gastrointestinal canal is the most frequent source of autointoxications. As a result of disorder here, ptomains and other products may result, which, in turn, after absorption, may be the starting point in the manufacture of leucomains, if they themselves are not directly the irritating agents. The production of fermentation and putrefaction, the former mainly in the stomach and the latter in the intestines, results in many of the human ills and nervous wrecks which our congested civilization exhibits. The gastric fermentation follows the excessive ingestion of carbohydrates, while putrefaction depends on the presence of albuminous bodies for its existence in the intestinal tract.

### AUTOTOXINS IN GASTRIC FERMENTATION.

Among the deleterious products formed during gastric fermentation, which, if absorbed, may disturb normal metabolism, are lactic, butyric and acetic acids. The intestines, however, on account of varied ferments and the presence of albumins which favor the multiplication of the anaërobic bacteria and their products, furnish the most varied number of toxic principles harmful to the organism after absorption. Extensive experiments have been conducted in the isolation and investigation of these agents and their subsequent injection into animals for the purpose of eliciting toxic symptoms. Foremost among these investigators are Brieger, Selmi, Gautier and Buchner.

Among the substances found following albuminoid putrefaction. may be mentioned ammonia, cystin, hydrogen sulphid, leucin and tyrosin, representative of the amido acid series; a group of aromatic bodies, derivatives of benzol, phenol, cresol, indol, skatol, etc.; diamins, such as Brieger's cadaverin and putrescin. The latter brings us to a discussion of the ptomains, the most important products resulting from intestinal decomposition. A ptomain may be defined as an organic chemical product, basic in character and formed by the action of bacteria on nitrogenous matter. Although these ptomains result from saprophytic action, disturbances following their absorption may still be classed as autogenous, since the lower forms of vegetable life which act on the albuminous contents of the intestine are normally present during the life history of the human organism.

### WHAT ARE PTOMAINS?

The name ptomain was first applied by Selmi to these organic basic substances. They may be called the putrefactive alkaloids. Not all ptomains are poisonous, however. He performed extensive experiments and demonstrated the fact that animal alkaloids quite similar in constitution and action to those from the vegetable kingdom, might be produced in cadavers as well as in the intestinal canal. Many of these ptomains resemble in chemical reactions strychnin, atropin, morphin and other vegetable alkaloids. During a celebrated trial in Italy, where the prosecution endeavored to make out a case of strychnin poisoning, the prisoner was acquitted on the testimony of Selmi that the base present was cadaveric in origin.

### EXPERIMENTS ON LOWER ANIMALS.

Many experiments have been employed on the lower animals for the purpose of eliciting, if possible, symptoms similar to those observed in intestinal toxemias. I can not enter into a description of the many investigations carried out along this line, though careful observers have demonstrated that autotoxins isolated from the alimentary canal cause symptoms similar in animals to those observed in human beings. Treatment further demonstrated that the removal of these toxic products resulted in a cessation of symptoms of disorder. The intestinal excrements were extracted with various reagents, and after purification so far as possible, the various constituents were administered to animals through different channels.

The absorption of indol is responsible for many of the disorders referable to intestinal toxemia. Herter has performed some interesting experiments with this substance. When given in continued doses to a rabbit, for some time, emaciation results. When a solution of indol was injected into the animal's intestines there resulted contraction of the pupils, muscular twitching, cardiac weakness, feeble respiration and general depression. Three men took small doses of indol for experimental purposes, beginning with 1 gr. Dull headache resulted. Larger doses produced severe colic and diarrhea in one. Another experienced great discomfort, intestinal flatulence, headache and insomnia. The third had the same symptoms, only more severe. The reaction for indoxyl and the ethereal sulphates was greatly increased in the urine. All of the cases showed exhaustion.

A study of the urine naturally confirms the absorption of intestinal toxin, inasmuch as after their absorption, they are more or less transformed in the body, and then increased elimination of the end product above normal occurs in the urine. The presence of various foreign substances in the urine may therefore lead to the discovery of their method and locality of production. The presence in comparatively large amounts in urine, of benzoic acid, the ethereal sulphates—indoxyl and skatoxyl, phenols and cresols, cystin, leucin and tyrosin, acetone, aceto-acetic acid, b-oxybutyric acid, etc., all refer to some alimentary toxemia or a disorder in metabolism directly referable to it. Singer has found almost regularly, in skin diseases associated with digestive disturbances, an increase of the putrefactive products absorbed, as shown by the excretion of an increased amount of ethereal sulphates in the urine.

Space will allow the discussion of only several alimentary disorders which have been clearly proven as the irritating influences in the origin of many nervous and mental disorders, especially those of a neurasthenic and hypochondriacal character. I will refer briefly to the so-called nervous dyspepsia, dilatation of the stomach, and constipation.

### NERVOUS DYSPEPSIA.

Nervous dyspepsia is a form of indigestion marked by the manifestation of nervous and other symptoms directly referable to gastric disorder as the instigating factor. There is usually present a feeling of malaise, headache, dizziness and insomnia. Hysterical and neurasthenic symptoms may appear. The etiologic factors at the base of this can very often be directly attributed to faulty hygiene and errors in diet. As a result, too much work is thrown on the stomach, and there results either an increase or decrease, or entire absence of free hydrochloric acid to carry on normal digestion. Thus an interference with nutrition follows, and gastric digestion is either carried too far or not far enough, as a result there being an absorption of these sub-end products of gastric digestion. These in turn may be the starting point in the manifestation of nervous symptoms, directly or secondarily through the production of leucomains.

As a result of fermentation, lactic and butyric acid, eructations of gas, etc., may take place, due to the work thrown on the digestive organ. These products after absorption are responsible for the headache and oppression.

Peptones and albumoses formed during digestion do not normally reach the general circulation as such. Injection of these substances into animals lowers blood pressure, depresses the heart, and destroys the coagulability of the blood. Lauder Brunton attributes the weakness, languor, dullness in the head and depression after a full meal to poisoning with peptone. Its detection in the urine proves its entrance into the blood.

### DILATATION OF THE STOMACH IN NERVOUS DISORDERS.

Dilatation is frequent among the gastric disorders productive of nervous symptoms. Errors in diet are again the main causative factors. A diminution in mental and physical vigor ensues. Among the characteristic symptoms are headache, insomnia, vertigo, undue sensibility to cold, and in one case which I have observed especially, during the morning hours there was a confusion of ideas, incoherence and obscuration of sight. A study of the urine showed an increase of urates and acidity, and the presence of peptones. Among intestinal disorders, constipation is foremost in favoring the production and absorption of toxic products. The term copremia has been applied to this condition, and the symptoms characteristic of this are well known, such as dizziness, lassitude, headache, insomnia, hypochondrias s, neuralgias, etc.

The majority of these symptoms are probably due to the absorption of the putrefactive products arising from the retained feces. This is demonstrated by the increased transference of the products of putrefaction to the urine. Chemical examination of the urine discloses the presence usually of indican.

### TETANY AN AUTOTOXIS.

The history of tetany can usually be traced to some gastrointestinal disorder, and Albu, in his admirable discussion on this subject, asserts this disease to be a most brilliant example of a gastrointestinal autointoxication. Most of the cases may, if carefully investigated, be traced to some form of gastritis, acute or chronic, dilatation of the stomach being the most common disturbance. Albu obtained from the urine of certain cases the salt of an alkaloidal-like body, which was always present during tetany attacks, but never during free periods. The injection of this in animals produced an artificial tetany.

### AUTOINTOXICATION FROM SEPTIC DISORDER.

Autointoxication from the gastrointestinal tract is closely related to poisoning directly referable to the liver. Self-poisoning may take place either from a disturbance of the liver parenchyma itself, by poison generated within itself, or through the secondary action of poisons received from the intestines, which may enter the circulation without the protective and destructive action of the hepatic function being exerted.

In consequence of interference with hepatic function, carbohydrates are not properly stored as glycogen, the formation of urea, the best diuretic, is interfered with and the antecedent bodies of the amido acid series, leucin and tyrosin, are excreted into the blood, as shown by their detection in the urine. Various hepatic disorders, such as atrophy and cirrhosis, may interfere with its normal function. Cholemia is a fruitful source of nervous manifestations, and results when the constituents of the bile are passed into the blood. Following the absorption of bile salts and coloring matters (bilirubin) into the blood, certain definite symptoms ensue. General fatigue, ill humor, cerebral exhaustion, sleepiness, bradycardia, itching and often disturbances in the senses of hearing and taste may often be directly traced to disordered hepatic metabolism.

The injection of comparatively large quantities of bile salts and bilirubin into the lower animals have been found to produce somewhat similar symptoms. It has been found that bile salts dissolve and break up the red blood cells and other body cells. Hemoglobin thus becomes diffused more or less into the blood, and as a further result following the setting free of toxic elements entering into cell constituents, intoxication follows.

Ordinarily and if unobstructed in its passage to the intestines, the bile becomes insoluble and is excreted. It has been demonstrated, however, that if all the bile could find an entrance into the circulation, the individual would be poisoned by his own bile in eight hours.

### TOXINS OF EXTERNAL ORIGIN—ALCOHOL, SYPHILIS, OPIUM.

In discussing the agents of external origin which are most frequently productive of nervous and mental disorders and which in their remote and direct effects are the etiologic factors causing the largest percentage of admissions to our asylums, space will only permit me to dwell briefly on three—alcohol, syphilis and opium. Other infections and drugs might be mentioned, and even coffee, tea and tobacco might be included in their share of censure in the production of neurasthenia and other nervous disorders, but undoubtedly these three head the list. I desire to include these agencies in my discussion, since many of the symptoms characteristic of alcoholism, syphilis of the nervous system and morphinomania, in both their acute and chronic stages, are due, not to the direct action of the external and primary poison itself acting on the nervous structures, but secondarily to an autointoxication resulting from a disturbed metabolism, the resulting products of katabolism being retained and reacting on the nervous and other structures.

### ALCOHOLIC AUTOTOXIS.

In order of importance as an etiologic factor, alcohol heads the list of external toxic agents influencing the nervous system detrimentally. The immoderate use of this beverage, prolonged over some months or years, will produce definite pathologic changes in neural and other tissues. An enumeration, however, of the most important morbid changes in organic structure, must convince one, whether the alcohol has been entirely removed or not, that a secondary self-intoxication is responsible for the peculiar mental and other symptoms which appear.

Among the most important pathologic findings are accumulation of fat cells in various organs, fatty degeneration of the heart, muscles, liver, kidneys and brain parenchyma, proliferation of connective tissue, cirrhosis of the liver, sclerosis and atheroma of the arteries and atrophy of certain organs. Nutrition becomes impaired, owing to vascular changes and disordered metabolism. Alcohol has a specific action on the neurons, shown by a disappearance of the chromatin granules and shrinkage of the entire cell. In the later stages the finer dendrites disappear entirely. The peripheral nerves are also acted on, neuritis and eventually localized paralyses resulting. To what extent these lesions are caused by the alcohol itself and by the poisonous products of katabolism, it is at present difficult to determine.

As a result of the alcoholic poison, indigestion, fermentation and dilatation of the stomach, etc., occur. Many of the symptoms of gastrointestinal autotoxis are present, even after a lengthy discontinuance of alcohol absorption. The furred tongue, heavy breath, loss of appetite, constipation, etc., are all indicative of the action of absorbed intestinal poisons.

Among the mental symptoms observable in subacute and chronic cases may be mentioned loss of memory and of self-control, incoherence of ideas and expression, irritability of temper, impairment of judgment, insomnia, headache, delusions and hallucinations, tremor, convulsions and general lassitude. Is it not probable that many of these symptoms may be due to autotoxic products being formed through the disordered metabolism resulting from the primary ingestion of alcohol?

In mania a potu the characteristic symptoms, such as restlessness and depression, insomnia, tremor, hallucinations, increase in temperature to 102 or 103 degrees, the frequent and feeble pulse, dry tongue and delirium may be more clearly assigned to autotoxemia as the productive agents than to any other factor.

### SYPHILITIC AUTOTOXIS.

There is no disease of mental or nervous character which presents symptoms referable to the action of toxic agents more conclusively than does syphilis. The primary stage is practically devoid of systemic manifestations, probably owing to the fact that the body cells are holding their own, so far as possible, in their fight against the invasion of the luetic virus. When the latter gains the upper hand, however, secondary symptoms set in, with the production of definite pathologic lesions, the third stage being a result of unobstructed degenerative changes to the organic and functional properties of the cells acted on.

The syphilitic virus seems to have a selective activity on nerve structure, comparable to the specific action of certain drugs on special organs and tissues. Nutritional and vasomotor disturbances complicate the mental aspect of the case.

The pathologic alterations are quite definite and easily demonstrated, such as gummatous deposits in the brain and cord, meningitis and arteritis, sclerosis, bone lesions, splenic enlargement, gummata of the liver and kidneys, etc.

It has been clearly demonstrated that after a variable length of time, the luetic poison becomes eliminated from the system, but not so with the autotoxic poison. Certain definite symptoms arise, such as mental dullness and irritation, melancholic alternating with maniacal stages, intense headache, loss of memory, of thought concentration, etc. Many of these symptoms can only be traced to the action of autotoxic bodies resulting from the katabolism following the action of the luetic virus, and reacting on the neural tissues, whether they were disturbed by the luetic poison or not.

### AUTOTOXIS IN MORPHINOMANIA.

The symptoms of chronic morphinism may be beyond doubt ascribed to an autotoxis primarily caused by the absorption of a poison in larger amounts than the body cells can readily take care of and excrete. No definite nor reliable pathologic tissue changes have been discovered to account for the characteristic mental symptoms, which seems to strengthen the idea that gastrointestinal autointoxication and retrograde tissue changes are to blame for the majority of symptoms.

Chronic opium ingestion will produce, as symptoms resulting from a depressant action on the nervous structure, indigestion, constipation, sluggishness of the liver, dizziness, sleeplessness, neuralgias and tremors, hallucinations of sight and hearing; both variable and fixed delusions are characteristic mental symptoms and are present during ingestion of the drug, as well as long after its discontinuance, before the various vital organs and functions have had sufficient time and opportunity to recover their normal organic structure and function.

The invariable presence of indigestion, constipation and liver torpidity, suggests the formation of autotoxic poisons, elaborated from these organs and acting as the direct, causative agents in the production and prolongation of the mental symptoms. In addition, a study of the blood shows a deficiency in the hemoglobin and red cells, together with an alteration in the form of the latter, which I have found to be crenated and granular.

As a result of this blood dyscrasia, the cells and tissues receive improper and insufficient nourishment, oxygenation is lessened and changed metabolism results, together with its varied manufacture of autotoxic poisons and resulting mental symptoms.

### CLOSING REMARKS.

It is the opinion of alienists in general that the proper and vigorous treatment of mental and nervous disorders in their incipiency would lessen to a great extent the number of admissions to our asylums. My experience in both asylum and private hospital work has confirmed my views that the rational treatment of many acute and subacute cases along the lines of deduction set forth in the preceding discussion will result in unexpected benefit and often remarkable recoveries. The confirmatory proofs accruing from treatment along the lines I have set forth will help to complete the chain of direct and circumstantial evidence that the conception of autointoxication when applied to many cases is no longer a mere theory, but a well-substantiated fact.

The precipitous onset of certain mental and nervous disorders may perhaps in some cases be made clear by a comparison to the symptoms of sudden poisoning following the administration of certain drugs, as for instance, digitalis. The clinical picture of digitalis action is usually slow in appearing and disappearing, and if administration of the drug is not carefully watched and guarded, acute symptoms of poisoning set in. This is due to the fact that the drug is slowly absorbed and as slowly excreted, so that incautious administration will precipitate signs of acute intoxication through the mass action of the latent drug.

The field is broad for further and more accurate work, and I wish my exposition of this subject to be considered only a step toward the solution of the many formidable problems still unsolved. The wonderful developments in biology during the past ten years, especially among the pathogenic bacteria, their toxins and antitoxins and their chemistry, method of formation and action, should stimulate us to still more earnest work.

I will endeavor to set forth in a future paper the lines of treatment I have followed in conducting the treatment of certain mental and nervous afflictions, exhibiting the various forms of autotoxemia elaborated in the preceding discussion.

# THE OCULAR COMPLICATIONS OF BRIGHT'S DISEASE.*

LOUIS STRICKER, M.D.

CINCINNATI.

### GENERAL STATEMENT.

The eyes become involved as a result of the general systemic conditions arising in Bright's disease. These systemic conditions, briefly considered, are the result of faulty kidney excretion, leading to the retention of urea or other excrementitious substances in the blood. These retained products are either poisonous in themselves or secondarily lead to the formation of toxins, thus producing inflammatory and degenerative changes in the vessel walls and the tissues of the body; or they may interfere with the proper conversion of the elements of food into those favorable for assimilation by the cells of the body, thus producing anemia and hydremia. To this abnormal condition of the blood is attributed the general arteriofibrosis, which finds its expression in hypertrophy of the heart and general increased arterial tension, leading to exudation and hemorrhage or total occlusion of the arterioles, with subsequent death of the parts cut off.

In the eye we find the vascular system (the choroidal and retinal vessels) and its nervous expansion (the optic nerve and retina) most frequently involved, although its media, the aqueous, lens and vitreous, may be secondarily affected. Paralysis of ocular muscles may follow as a result of cerebral involvement. All of the conditions are observed clinically, as hemorrhages, inflammations and degenerations.

The hemorrhages are due to the combined influence of arterial degenerations and increased arterial pressure. The inflammations and degenerations follow in the wake of improper nutrition and presence of toxins.

As a rule, as in all constitutional affections, ocular involvement is bilateral, but in some cases only one eye is primarily affected, and active treatment may so control vascular and nutritive conditions as to prevent the second eye from becoming affected. Ocular involvement is met with at all times of life, and may occur during the progress of acute Bright's disease, the Bright's disease of pregnancy, chronic parenchymatous and chronic interstitial nephritis. The majority of cases have been attributed to the last-named.

No doubt, many cases of Bright's disease develop ocular symptoms which are never discovered, as neither choroidal nor retinal disease causes pain, and unless the functional disturbances are prominent they are allowed to pass without further investigation. On the other hand, the oculist is not infrequently consulted for failing eyesight and makes the first diagnosis of Bright's disease.

In the acute forms, however, as a result of the rapid accumulation of toxic products in the blood, we find the nervous tissue of the eye more especially involved, and these cases are distinguished by the severe and diffuse character of the pathologic changes, from which the tissues may or may not be able to recuperate.

In the subacute forms it has been held that the changes are due to an interference with the nutrition in consequence of alterations in the vascular system. These vascular changes are attributed to toxic influences, but here likewise I believe that the toxins or other retained excrementitious substances play a more directly important rôle.

In these two forms of the disease we find either a diminished or normal quantity of urine and large quantities of albumin, and it has been inferred that the loss of albumin is responsible for improper nutrition. But this would not in any way explain the cases of chronic *interstitial nephritis*, in which the eye symptoms are said to occur most frequently, and in which we find large quantities of urine and only a trace or absence of albumin. So that in chronic Bright's disease we seek the cause of the ocular symptoms in the retention of excretory products in the fluids of the body which, acting as an irritant or a toxin, produce inflammatory and necrotic changes.

These excretory products, though constantly present in Bright's disease, in the beginning are not so in overwhelming quantities, and the tissues may be able to adjust themselves to changing conditions (a possible reason why all cases of Bright's disease do not develop retinal and choroidal changes), but in some a point is reached where the intoxication becomes excessive and the tissues react to the influence of irritants or poisons, and gradually succumb to permanent changes which are not easy to combat and offer a very unfavorable prognosis.

So that it seems rational to ascribe the ocular changes, especially choroidal and retinal, in all forms of Bright's disease to the same cause; namely, some constituent of the urine which is not excreted, but is retained in the blood, and acts as a chemical irritant or a toxin.

What the chemical nature of the products retained in the blood are, is as yet unsolved, but in all probability is connected with an improper elimination of urea. Since I have fixed my attention on this subject, I have found in a number of cases of Bright's disease, independent of the variety, a diminution of the urea quantity in the urine; that is, a retention of urea in the blood. In other words, the ocular symptoms are evidence of acute or chronic uremia. And we may place in the same category the cases of uremic amaurosis, in which the lesion or irritation is in the brain.

All text-books are vague on this subject. No attention is drawn to the fact that the seriousness of the case is not to be gauged by the loss of albumin but by the degree of auto-intoxication from retained excretory products, and that as yet we can do this only by a study of the percentage of urea in the urine.

So far as I know, no one has yet attempted to show that in all cases of choroidal and retinal disease accompanying Bright's disease there is less urea excreted, nor has a study of the relationship between diminution of urea quantity in the urine and the simultaneous increase of the severity, or even the presence of ocular symptoms, been made. We do know, however, that where the skin can be made to do the work of the kidneys vision does improve, though it be only for a time, since the control of eye symptoms depends on our success in controlling the kidney disease.

If this view that all cases of ocular involvement are due to chronic uremia and show a diminution of urea in the urine should be proved correct by observations in larger numbers of cases, it would also explain the reason for the comparatively rapid fatal outcome of nearly all, if not all, these cases.

The question would naturally suggest itself, how long a time after changes have taken place in an eye can a favorable outcome be expected? I should take it that vascular changes and exudates offer a better prognosis than changes in the nervous elements, the impairment of which, if degenerative, is permanent.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

The degenerative changes are usually so matted in exudates that when these are cleared away the results are often better than hoped for. Rods and cones cut off from their nutritive supply for three or four weeks can not be restored, nor will ganglion cells take on new life. A degenerated vitreous can not be restored, nor will lenticular changes and opacities be resorbed. So that the degree of vision ultimately to be retained depends entirely on the degree of insult to the globe before the patient comes under observation, the energy with which treatment is pushed, and, finally, the form of the disease, since better results may be expected from acute than chronic processes.

The ocular symptoms of the Bright's disease of pregnancy cause special concern. We are confronted here not only with the possibilities of a spontaneous abortion and the dangers to the mother incident to such an occurrence, but we are called on to decide whether it is justifiable to produce an abortion to save the eyesight of the mother, since it is well known that the kidney disease in such cases subsides quickly after labor is terminated. Ocular involvement in pregnancy indicates latent, but more serious possibilities, namely, puerperal convulsions, uremia and death.

In pregnancy, where albumin is found in the urine, the eyes should also be examined. The ocular lesions are but more delicate and sensitive reactions due to widespread intoxication, to which the whole nervous system is undoubtedly also subjected. An estimation of urea at this time becomes a matter of special importance, and where this falls below the normal the time for active interference has arrived. The estimate should be made with special attention to diet and quantity of fluid ingested for 24 hours.

Where the pathologic changes in the retina are not great, pregnancy far advanced and urea quantity nearly normal, one may temporize, but where widespread exudates and degenerative changes are taking place, urine loaded with albumin and urea quantity low, I believe labor should be induced not only to prevent permanent serious impairment of eyesight, but equally because the eye symptoms indicate the seriousness of the general condition and the possible fatal outcome of the case.

Whereas, in Bright's disease, both acute and of pregnancy, we may look forward to a certain degree of clearing up of the media and an absorption of exudates, so that we meet with partial, at times even complete, restoration of function, and the prognosis is favorable, in chronic forms the eye symptoms, as a rule, follow in the wake of nutritive disturbances of long standing, the degenerative changes are gradually induced and are premonitory symptoms of approaching dissolution. Various authorities place the time of life after retinitis sets in in the chronic form of Bright's disease at from three months to two years as the ultimate limit. I have seen death ensue within twenty-seven days after retinal degeneration was recognized. Only a small percentage of cases of Bright's disease (5 to 6 per cent.) develops ocular symptoms, but where this occurs it is always an ominous sign and a signal for active treatment.

The treatment of the ocular conditions of Bright's disease has for its object the furtherance not only of the elimination of toxic substances from the system and the general improvement of the nutritive conditions, but purposes a rapid interchange of fluids, so as to bring about a rapid resorption of noxious fluids and exudates in the eye. This is accomplished by stimulating or controlling the heart's action, by the drinking of large quantities of water, so as to flush the kidneys and dilute the poisons; to rid the system of the latter by active purgation, and, above all, by active diaphoresis, to cause the skin to do the work of the kidneys. Diaphoresis is of paramount importance. It is remarkable how quickly vision clears up on use of Turkish baths, where patients can get them, or by the use of a hot pack. (Pilocarpin injections are used, but are very depressing to the heart action.) The baths must be taken at least three times a week, and where the physical condition permits of it, every day. The hope of attaining good vision depends entirely on the rapidity with which we secure absorption of exudates, rid the system of poisonous substances retained, and on our success in improving the general nutrition.

### RESUME OF CASES.

Of 16 cases of the severer forms of the ocular complications of Bright's disease under my care 5 were cases of optic neuritis, 3 of neuroretinitis. 2 of neuroretinitis hemorrhagica, 2 of neuroretinitis and choroiditis, 1 venous thrombosis, 2 uremic amaurosis and 1 keratitis, in all probability a general uveitis. Seven cases had previously had medical treatment; only 5 were referred to me; so that in 11 cases attention was drawn by the ocular conditions to the true character of the disease.

Two cases occurring during the progress of pregnancy might fairly be considered as acute Bright's disease, and both are living. In one case vision has been greatly impaired, the woman having aborted in the seventh month. The other, a case of general uveitis, went to full term and was delivered of twins, and sight was fully restored.

Four were cases of chronic parenchymatous nephritis subsequent to la grippe, typhoid and measles. Three of these died, and there is no doubt in my mind that the fourth case died, though he passed from my observation. All of these cases showed more or less edema of their lower limbs, and two of them showed enormous hypertrophy of the heart, the whole left side fairly quivering with each pulsation.

All of them had a large percentage of albumin in the urine, and in two of them the urea quantity was found below the normal, and in one, though the urea quantity was not estimated, the patient had had uremic convulsions before I saw him.

Ten were cases of chronic interstitial nephritis. Two of these were in all probability of syphilitic origin; 1 was due to tubercular kidneys; 1 to general atheroma and senility; in 6 no cause could be assigned. Two of the latter (8 and 12) had no history of ever having been ill, while three had been treating for Bright's disease for periods of from 2 to 6 years. All had a greater or less degree of hypertrophy of the left ventricle, and showed traces of albumin; 1 case had had uremic convulsions, and 4 of the others showed a diminished urea quantity.

Seven of my cases died, the shortest period being, in one case, five days, in another twenty-seven days after coming under observation, the longest period being one year and three months. In 8 cases the urea quantity was below the normal; 2 had had uremic convulsions before I saw them.

Four cases passed from observation and the subsequent history is unknown, and 3 cases are living, the two cases complicating pregnancy and the one of retinal venous thrombosis.

Two cases had had apoplectic seizures previous to the development of the ocular symptoms.

Two cases have come under observation within the past month and are still living.

## CONCLUSIONS.

1. There are no ocular complications of Bright's disease from which, independently, a positive diagnosis of Bright's disease can be made. They should direct our attention to the probability of Bright's disease and lead to systemic examination.

2. The prevalent idea that one must find the characteristic picture of Bright's disease, with hemorrhages and areas of degeneration and white splashes in the region of the macula, is a mistaken one, since one may meet with any of the many manifestations of vascular or retinal inflammation due to the action of toxins.

3. Only a small percentage of cases of Bright's disease develops ocular complications, but if larger numbers of cases were systematically examined it is more than probable that a much larger percentage would be found to have ocular lesions, which have not caused functional disturbances, and consequently have been overlooked.

4. All the ocular complications of the disease are the result of altered nutrition, or toxemia; in other words, a chronic uremia.

5. Diseases of the eye coming on in the course of Bright's disease are of the most serious prognostic import, and indicate an early dissolution of the patient.

6. In the acute form conditions are of a more hopeful character, though a prolonged siege, with inability to stay ocular disease, can not fail to leave the patient, though he recover, with greatly impaired vision.

7. An estimation of the urea quantity made from a total amount of the urine of 24 hours, under proper diet, is the barometer by which we are to be guided in determining the early or immediate fatal outcome of the case.

8. In the Bright's disease of pregnancy, with ocular involvement, a low urea quantity should be a positive sign for immediate interference, and should justify artificial abortion both to save the eyesight as well as the life of the mother.

9. In cases of Bright's disease disclosing choroidal and retinal changes I have found the urea quantity in the urine below the normal; and it seems more than probable that the urea or other excrementitious substances retained in the blood, due to faulty kidney excretion acting as chemical irritants or toxins, are directly responsible for the inflammatory or degenerative changes.

## ILLUSTRATIVE CASES.*

### OPTIC NEURITIS, CHRONIC INTERSTITIAL NEPHRITIS.

Case 1.—Mrs. L. G., 57 years of age, came of her own accord, Dec. 22, 1902, owing to a sudden diminution in her vision. She has had two children; one died in its eighth year. The son is living and married. She has had some severe spells of illness; did not walk for six years, and states that she had peritonitis and has had an ischiorectal abscess. Is nervous and constipated, but has had few headaches. For the past two years her heart has troubled her considerably. A year and a half ago she had a stroke of paralysis of her entire right side, including an anesthesia of the right side of her face. Improvement began in the leg in a few days, but the arm and hand have never fully regained their strength. She had no aphasia at that time. From the time of her paralysis, she states that her vision was poor, and she found great difficulty in reading and sewing, but did not consult an oculist at that time. Her right eye, she says, has since that time been of little use to her, but the left eye has only been failing during the past week.

*Examination.*—She appears fairly well nourished, but says her weight has fallen in the past two years from 160 to 126 pounds. Her eyelids are markedly swollen, but no other signs of edema could be found in other portions of her body. The heart is enlarged; pulse strong and full, 100 per minute, and at times intermits and gets tumultuous. Heart extends one-half inch beyond the nipple line.

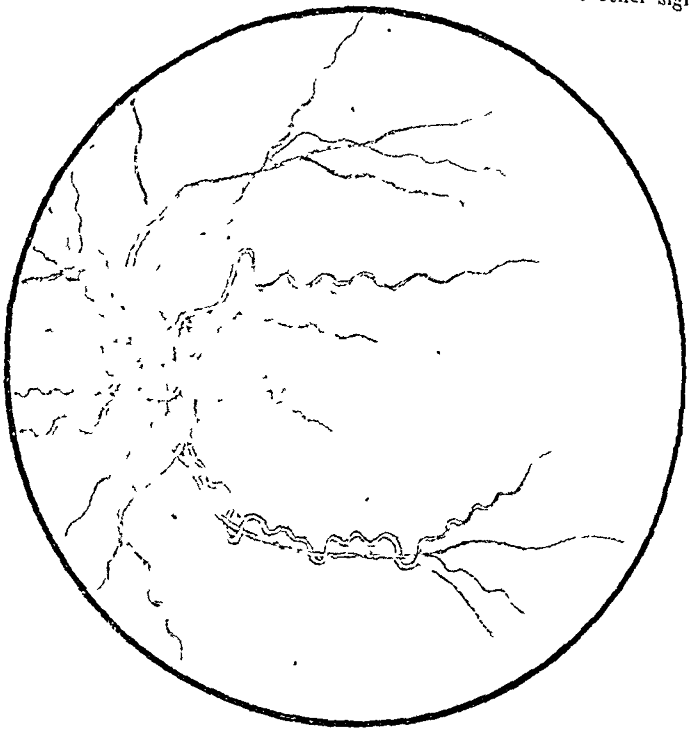

Fig 1.—Case 1. Optic neuritis, left eye

An examination of her fields of vision disclosed on the left eye loss of the entire nasal and lower segment of 150 degrees, and the remainder of the field is contracted down to 30 or 40 degrees, and this is extremely hazy, but in the retained segment colors are faintly recognized.

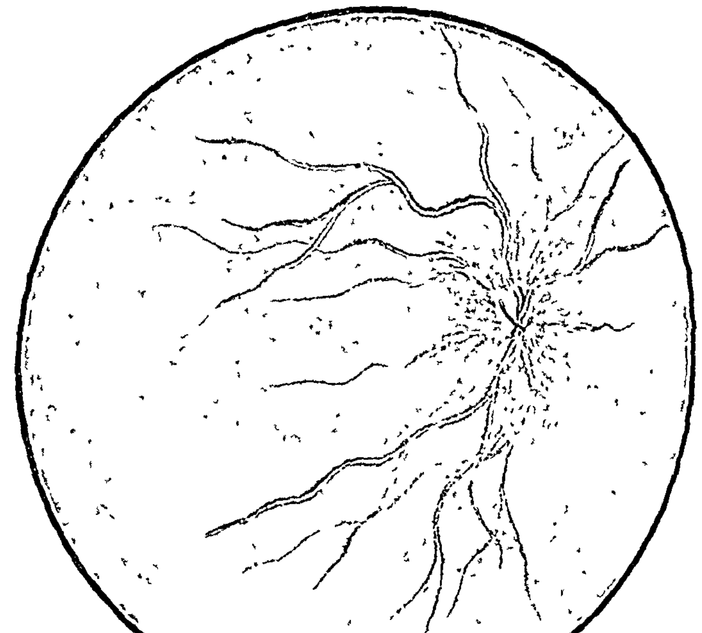

Fig. 2.—Case 2. Optic neuritis, right eye

On the right eye only the upper nasal quadrant, including the region of the macula, is retained, and this likewise is contracted. This loss of the nasal half of the left eye and the temporal half of the right eye would lead one to suspect a hemorrhage in the visual center on the left side at the time of her paralysis a year and a half ago, and this, I should take it, is entirely independent of her present illness, and this is partly borne out by the ophthalmoscopic examination, in which we find the left eye disclosing a pronounced neuritis, whereas, in the right eye, the disc is plainly visible and gives one more the impression of an optic atrophy. The consensual and direct reaction of the pupils is somewhat slow, though intact.

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* The illustrations are the work of the author, made from sketches taken by the direct method.

*Ophthalmoscopic Examination, Left Eye.*—Vitreous slightly hazy, through which, however, the entire fundus is visible. The disc is markedly swollen and enlarged to double its size, and appears as a deep hyperemic area which is gradually lost in the retina. It has not the characteristic fire brand appearance, but very few enlarged capillaries being noticed on the surface. It has more the granular appearance. The arteries are normal in size, sharply outlined. The superior, however, can not be traced to their origin in the disc, but seem to emerge far out on the retina proper. The veins are double their normal size, extremely tortuous. A few striated hemorrhages are visible in the upper inner quadrant in the *hyperemic area, close to the disc*. Nowhere on the fundus can any signs of retinal degeneration or conglomeration of white exudates be observed.

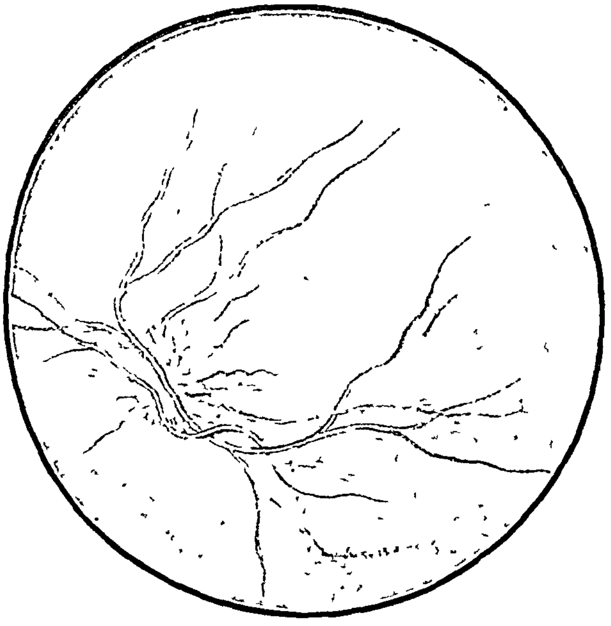

Fig. 3 —Case 2. Optic neuritis, left eye

*Right Eye.*—The fundus is veiled by vitreous opacities, but nevertheless the disc is distinctly visible and sharply outlined, with the suggestion of a bluish cast. There is just the slightest suggestion of beginning neuritis, notwithstanding the atrophy. The arteries are normal in size, whereas the veins are dilated, but show no tortuosities so markedly defined in the left eye. There is likewise here no suggestion of retinal degeneration.

*Examination of the Urine.*—Acid reaction, fair quantity of albumin; no sugar; urea quantity 0.35 normal. Passes enormous quantities of urine daily.

*Treatment.*—This patient was given bromid to quiet the heart, placed on a milk diet and given energetic sweat baths, and her vision in a few days commenced to clear up.

*Subsequent History.*—December 27. The hyperemia of the disc is not so great, inasmuch as on the left eye the vessels in the superior part can be followed now to their origin on the disc

Oct. 2, 1903. The patient is still living.

### OPTIC NEURITIS, CHRONIC PARENCHYMATOUS NEPHRITIS.

CASE 2.—S. S., 23 years of age, was referred to me for examination owing to some edema of his lower eyelids and for a very annoying scotoma scintillans. Suffered from typhoid fever in his fourteenth year, and was refused life insurance in his nineteenth year owing to albumin in his urine.

*Examination.*—He has a slight hypertrophy of the heart; apex beat a little below and to the left of the nipple line; pulse rapid and bounding.

*Examination of the Urine.*—Approximately three pints are passed per day, loaded with albumin; urea half of the normal quantity. Chronic parenchymatous nephritis.

*Ophthalmoscopic Examination, Left Eye.*—A distinct optic neuritis; the edges of the disc are faded, many dilated capillaries radiating from the disc, and a large area of edema follows the vessels for the lower half of the retina in their course. A white, edematous area occupies the region of the macula; vision =6/6.

*Right Eye.*—Vision =6/9. The disc is likewise edematous, swollen, great hyperemia of the vessels and a similar edematous area surrounds the vessels of the lower half of the disc.

*Subsequent History.*—This patient was not seen again until June 12, 1901. He tells me that he has had uremic convulsions; was in coma at one time for 36 hours. Ophthalmoscopic examination of both eyes showed large atrophic areas, many of them punctate in form, a result of violent choroidal inflammation. These areas are especially confined to the regions immediately surrounding the discs and in the macular region and for a distance along the line of great vessels, but they do not extend into the periphery. Owing to his great weakness, ophthalmoscopic drawings could not be made. He died Sept. 10, 1901—just one year and three months from the first time he visited my office.

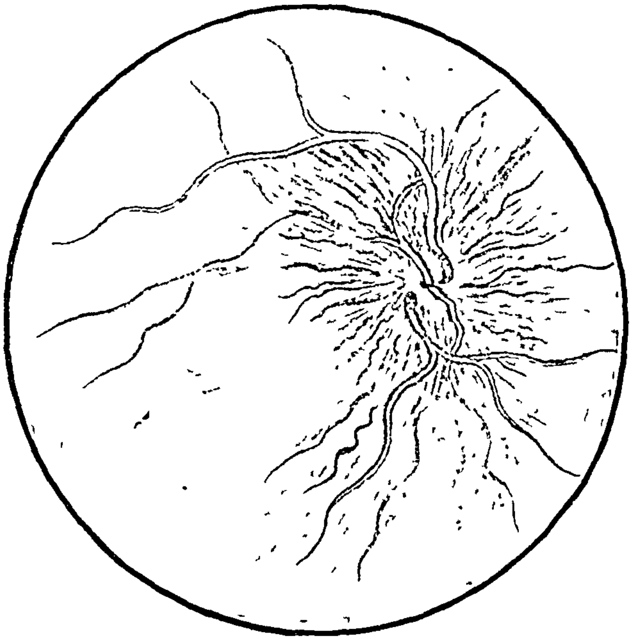

Fig. 4 —Case 3. Neuroretinitis, right eye.

### NEURORETINITIS, CHRONIC INTERSTITIAL NEPHRITIS.

CASE 3.—Mrs. B., a widow, aged 55 years, was referred to me October, 1896, for examination for glasses. She states that she has been under treatment for chronic Bright's disease for some time.

*Examination.*—Hypertrophy of the left ventricle, and an accentuated second sound. Patient is emaciated, weak and suffers from severe headaches, but has no edema

*Examination of the Urine.*—Large quantities of albumin. Diagnosis, chronic interstitial nephritis.

*Left Eye.*—Vision equals 6/60, with +150 D.; no improvement. Examination of the fundus shows the typical picture of retinitis Brightica. Papilla is enormously swollen, giving the typical fire brand appearance, +3 D. required to see it distinctly. All capillaries are widely dilated and tortuous, with many hemorrhagic *foci* scattered over the enlarged papilla. The veins are tortuous, overfilled, almost double their usual size, the arteries almost normal, but very tortuous.

In the region of the macula is a large atrophic area, surrounded by pigment, the result of choroidal atrophy. In the center of this area can be seen distinctly an exquisitely, sharply defined point, which reflects the light like a flame. Around this area of macular degeneration are many splashes of fatty degenerated retinal tissue. Also, the characteristic stippling on the region of the macula. *Following the course* of the vessels are also many splashes of retinal degeneration

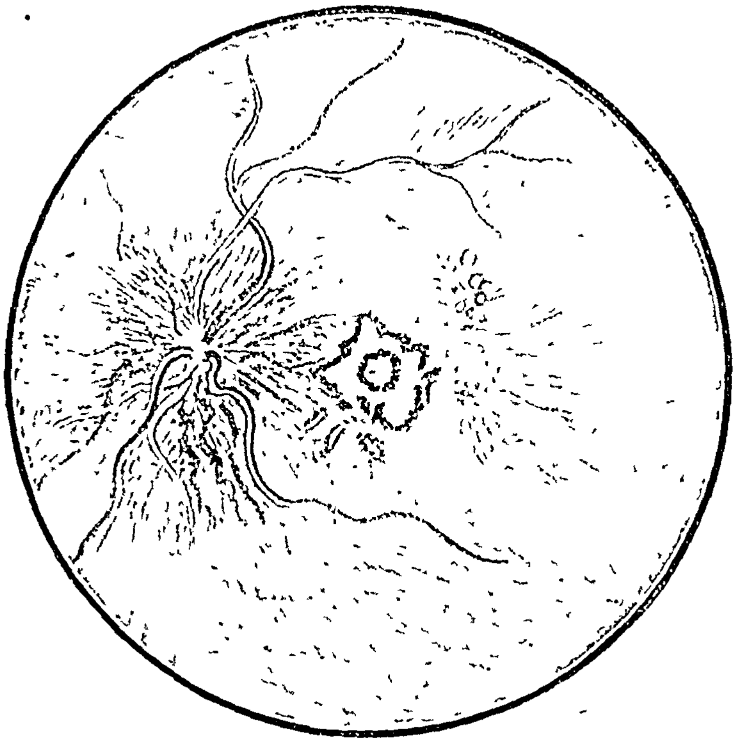

Fig. 5.—Case 3. Neuroretinitis, left eye.

*Right Eye.*—Much the same condition prevails—the hemorrhagic areas on the papilla, if anything, greater. The swollen papilla seems to extend far out into the retina proper. The region of the macula presents the characteristic figure, and here, likewise, areas of retinal degeneration follow the lines of the vessels. Above the macula are several hemorrhagic foci

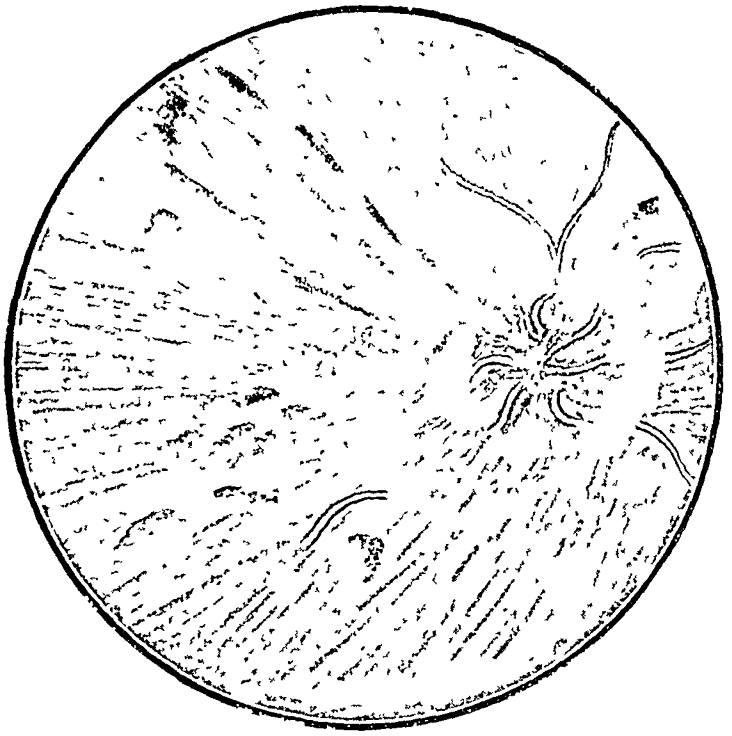

Fig. 6—Case 4 Neuroretinitis, right eye

*Subsequent History.*—No improvement was observed from treatment and the patient died in June, 1897.

### NEURORETINITIS, CHRONIC PARENCHYMATOUS NEPHRITIS.

Case 4.—William N., 33 years of age, was referred *to me* Sept. 10, 1901, for an examination of his eyes, which began to fail a week previously; he is a clothing cutter, married and has always led an abstemious life. He had typhoid fever a year previous to his present illness. He has had many dizzy spells, headaches and sickness of his stomach. He had a uremic attack a week previous to his visit, since which time his vision has begun to fail.

*Examination*—He has an enormously hypertrophied heart; pulse 120, full and tension high. His whole left side quivers with each pulsation. He has all the signs of arteriosclerosis on his temples

*Examination of Urine.*—He passes 7.5 pints of urine daily, which is loaded with albumin. Diagnosis, chronic parenchymatous nephritis.

*Present Treatment.*—Nitroglycerin to reduce violent heart action, and sweat baths by means of the hot-air apparatus; salts.

*Left Eye.*—Vision=6/60. The entire retina is so edematous that conditions in the temporal half can scarcely be observed. There is also some cloudiness in the vitreous, close to the retina, and considerable exudate behind the retina, so that the retina has a grayish appearance, with a possible slight detachment. In the region of the macula are some white glistening points and everywhere are white striated patches, more particularly in the upper half of the retina, where several large hemorrhagic exudates exist. The disc itself is so enormously swollen that the vessels can be only followed for a very short distance, and disappear in exudates, appearing again at long distance removed. There is enormous dilatation of all the capillaries of the disc and *hemorrhagic* areas scattered over the entire retina.

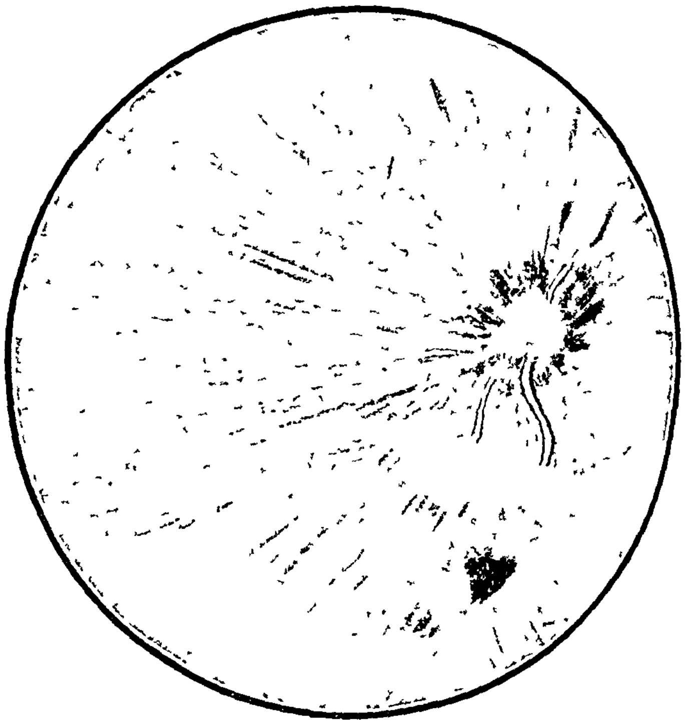

Fig 7—Case 4 Neuroretinitis, left eye

*Right Eye.*—Vision=4/60. The disc is edematous; enormously swollen; veins and arteries widely dilated and tortuous; disappear on the surface of the disc, and appear again at some distance from it. Many flaring hemorrhages exist over the entire fundus, and white areas of choroidal exudate, as well as degenerative and fatty changes in the retina, are marked everywhere The characteristic star figure in the region of the macula is present.

*Subsequent History.*—Ocular conditions were not materially improved by the general treatment, and the patient died Nov. 20, 1901, having suffered from general edema of the lungs, glossitis, neuralgia, and finally dying of an enormous hemorrhage of the stomach, possibly a uremic ulcer of the stomach

### NEURORETINITIS, CHRONIC INTERSTITIAL NEPHRITIS

Case 5.—April 5, 1902, I was called to examine the eyes of Mrs F. L, who had been under treatment for chronic interstitial nephritis for the past six years She had had repeated uremic attacks; was much emaciated and very weak. Her pulse was rapid and feeble; she was unable to read anything, and objects at a short distance were covered by a cloud.

*Ophthalmoscopic Examination, Left Eye.*—The vitreous was full of floating opacities, through which the disc is seen swollen, exceedingly hyperemic; its edges indistinct, and radiating from the disc in every direction are many flame-like hemorrhages. The disc is surrounded by many white patches, some of them flame like; others confluent, and in the region of the macula is a large white area, surrounded by many glistening points. The *right eye* presents practically the same conditions.

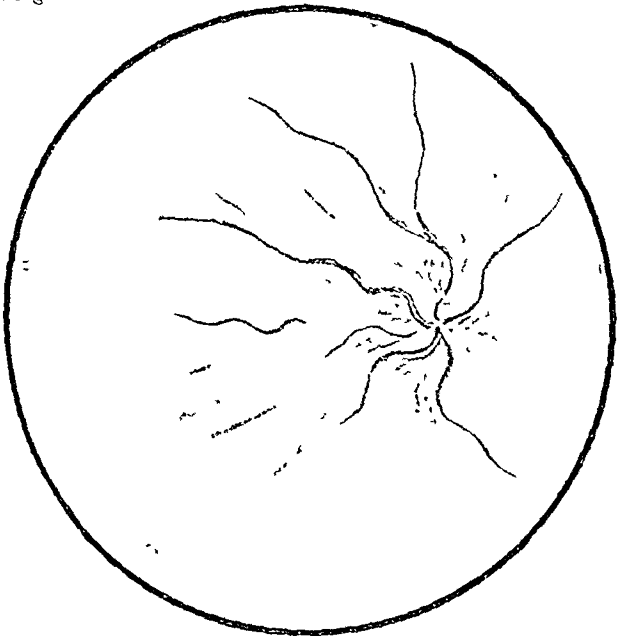

Fig 8.—Case 5. Neuroretinitis, right eye

*Treatment and Subsequent History.*—The patient was put through an energetic course of sweat baths, and vision seemed to improve, but death ensued June 21, 1902, the patient having been in uremic coma for four days.

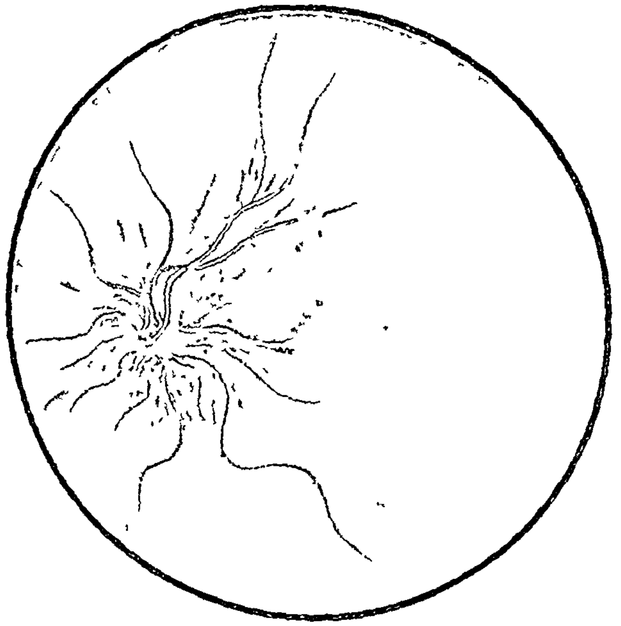

Fig 9.—Case 5 Neuroretinitis, left eye

NEURORETINITIS HEMORRHAGICA, CHRONIC INTERSTITIAL NEPHRITIS.

Case 6.—Mrs. O H., 64 years of age, came in March, 1902, to have her eyes examined for glasses, stating that her vision had been poor for the past four weeks; she is a large, stout woman, weighing 185 pounds, with no history of ever having been ill, except the occurrences of headaches and dizzy spells.

*Examination.*—The heart is enlarged, apex beat two inches beyond the nipple line, pulse 120, full and strong.

*Examination of the Urine.*—Sp. gr. 1008, much albumin, no sugar, no casts. Chronic interstitial nephritis.

*Ophthalmoscopic Examination, Left Eye.*—Vision is 2/60; can read no print. The disc is hyperemic; swollen; edges indistinct and hazy. Extending outward from the disc, taking in the area of the entire macular region, is a large hemorrhagic area, in some places so dense as to appear almost black. There is also an area of degeneration appearing white and glistening, exactly in the center of the macular region.

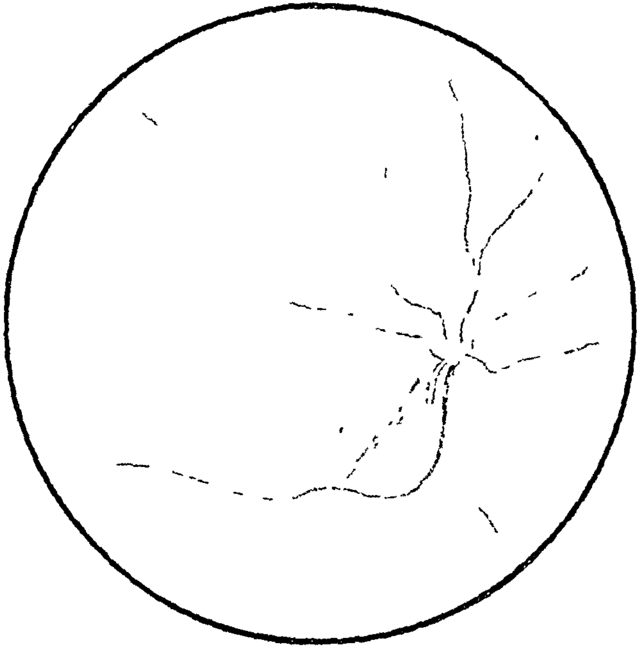

Fig. 10.—Case 6 Neuroretinitis hemorrhagica, right eye.

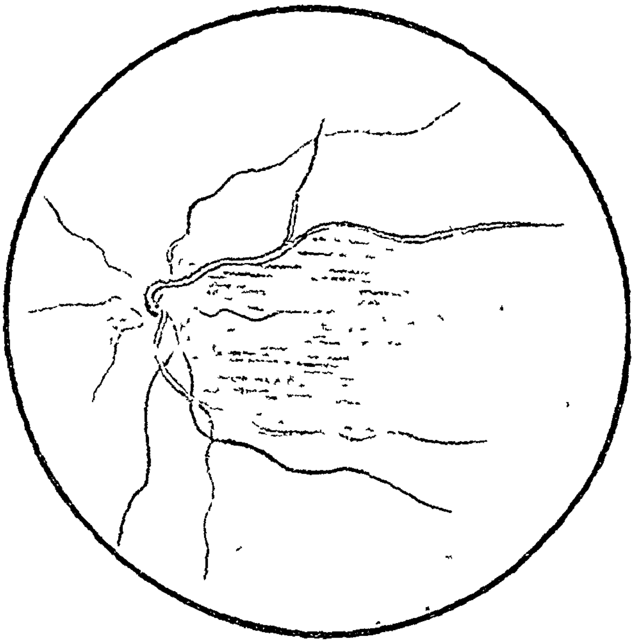

Fig 11.—Case 6 Neuroretinitis hemorrhagica, left eye

*Right Eye*—Vision equal to 6/36; disc is swollen; edges washed out, and extending downward and outward is a flame like area of dilated capillaries, in which the inferior temporal artery is lost The macula is not involved.

*Subsequent History.*—The seriousness of her condition was disclosed to her daughter, but they refused to believe my statements, and the case was lost sight of.

### NEURORETINITIS HEMORRHAGICA, CHRONIC PARENCHYMATOUS NEPHRITIS.

Case 7.—Miss E. F., aged 18 years, came of her own accord Aug. 22, 1899, owing to gradual diminution of vision. She states that two years previously she had the measles, subsequent to which she developed dropsy. Her father died of Bright's disease and two sisters died of tuberculosis. She has four sisters and two brothers living. She has had no other disease of childhood, but since having the measles she has never been well. At present she is very pale, anemic, listless; at times can not follow conversation; has constant pain in head, vomiting spells every day, especially on arising in the morning; her feet are swollen. She has never had a complete convulsion, though at times cramps occur in her hands and legs. She has had severe diarrhea at times.

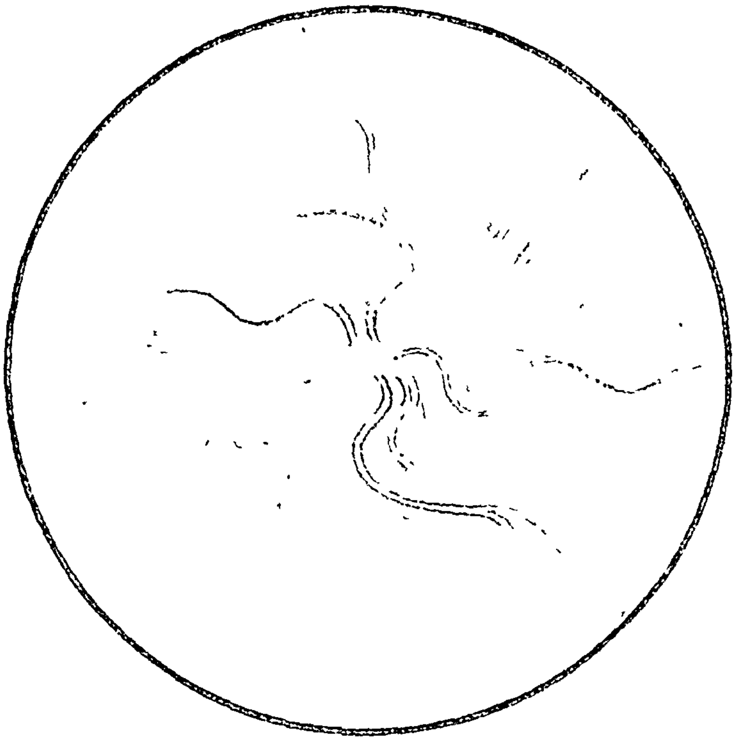

Fig 12.—Case 7. Neuroretinitis hemorrhagica, right eye.

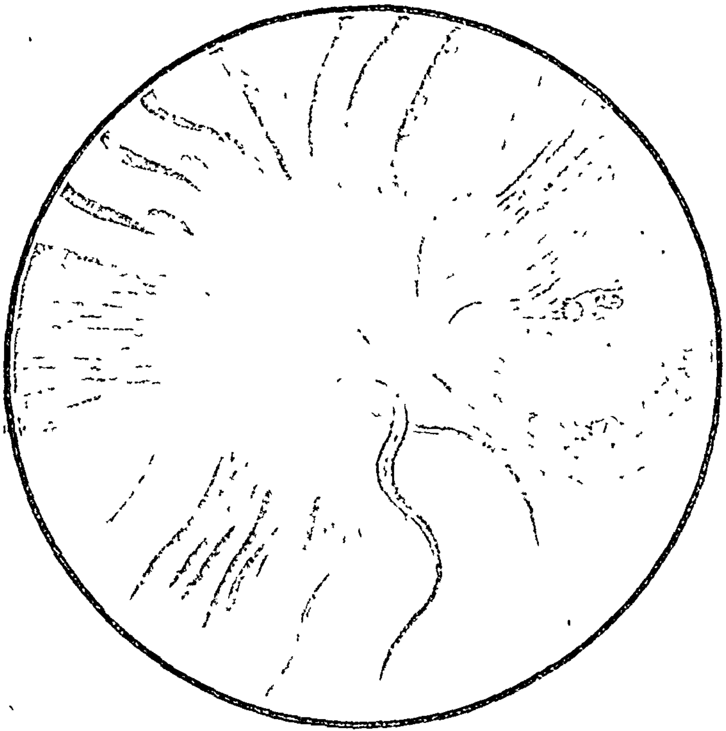

Fig. 13.—Case 7. Neuroretinitis hemorrhagica, left eye.

*Examination.*—Pulse rate is 128, full and strong. Her heart is enlarged beyond the nipple line and an accentuated second sound heard all over her left side.

*Examination of Urine.*—Her urine is loaded with albumin and the urea quantity is half normal. Diagnosis, chronic parenchymatous nephritis.

*Left Eye.*—Only light sense. Ophthalmoscopically the disc appears about three times its normal size, pure white, from which gradually radiate dilated capillaries. The veins are more than triple their normal size, the superior disappearing in exudates, the inferior, with great tortuosity, extending downward. The arteries are entirely lost in the exudate and swelling. The entire periphery of the retina is covered with radiating hemorrhagic areas, sometimes fine, sometimes in large blotches. The region of the macula displays a wonderful fatty degeneration, a formation of cholesterin crystals, extending downward, forming a large, almost triangular area.

*Right Eye.*—Vision =4/60. The papilla is more normal in size, but swollen. From its edges radiate dilated capillaries, which give the fire-brand appearance, and which are gradually lost on the surface of the retina. The arteries and veins are dilated and tortuous, and to the nasal side and upward are many fine radiating hemorrhagic areas, whereas, below are many confluent, white plaques. The region of the macula disclosed many white spots, and just above the macula is a large hemorrhagic exudate.

*Subsequent History.*—This young lady took to her bed the day I examined her, and died September 18, just 27 days after my examination.

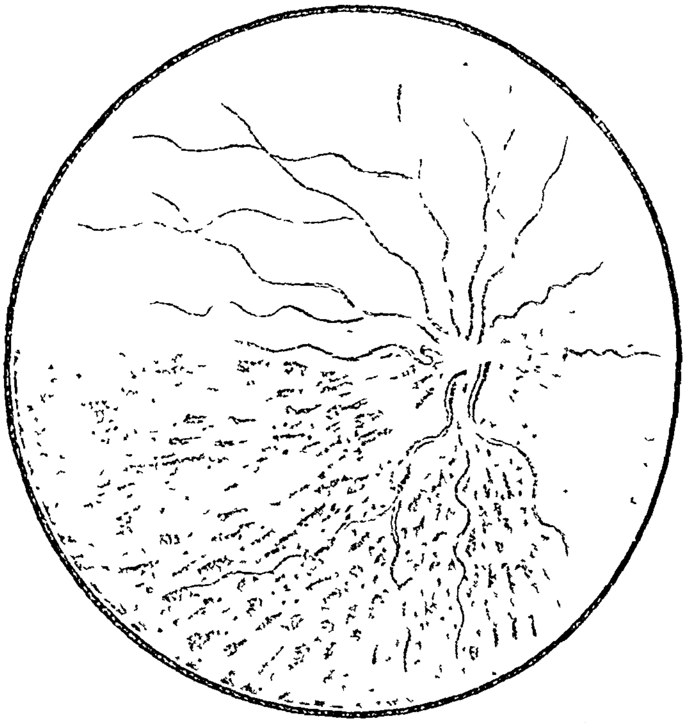

Fig. 14.—Case 8. Retinal venous thrombosis.

### RETINAL VENOUS THROMBOSIS, CHRONIC INTERSTITIAL NEPHRITIS.

Case 8.—Mr. E. B., aged 64, consulted me Jan. 31, 1898. He stated that on awakening from a sound sleep on the morning of January 30 he observed that vision of his right eye was completely blurred. He denies all venereal disease; in fact, he has no recollection of ever having had any disease.

*Examination.*—There was no external sign of disease. His pulse is strong and incompressible; heart enlarged.

*Examination of the Urine.*—Sp. gr. 1022; alkaline reaction, with but a trace of albumin; no casts.

*Ophthalmoscopic Examination.*—Vision of the right eye was but 6/24, and of the left eye a complete blur. The nasal and lower halves of the disc are indistinct and covered with fine hemorrhages. The two inferior veins are dilated to nearly four times their normal size, and following them downward in their course you find them strewn with hemorrhagic exudate; especially the inferior temporal vein shows two points at which the vein is entirely hidden by a grayish white mass, presumably the dilated portion of the vein, which I hold to contain thrombus. The veins in the lower half of the fundus are tortuous, and the entire lower half of the retina is strewn with hemorrhagic splashes. Curiously the entire upper half of the fundus, except a portion of the nasal, is free from hemorrhage; its veins and arteries are normal; whereas, in the lower half of the fundus, the arteries are much smaller.

*Subsequent History.*—This patient remained under observation for more than a year, but whereas the hemorrhagic exudate absorbed, his condition remained practically the same, and the upper half of the field was entirely wanting. He is still living.

[The discussion on the papers of Drs. Stricker and Suker will follow the paper of the latter next week.]

# THE DEVELOPMENT OF HARD TISSUE IN THE PULP OF HUMAN TEETH.*

DOUGLAS E. CAUSH, L.D.S.
BRIGHTON, ENGLAND.

Of the functions performed by the various organs of the body there are few, if any, more interesting or have the power of producing more varied results than that of the tooth pulp. In health it is the benefactor of the surrounding hard tissue; in disease, the medium whereby we are warned of the mischief that is going on. Among the varied functions of this organ may be placed the power of developing "secondary dentin."

Nature in many cases endeavors to overcome the evil produced by the destroying microbe, by forming a layer of fresh tissue between the soft, sensitive pulp and the dentin that is being broken down by decay; the same protective measure also occurs in those cases where erosion has commenced its destructive work, as well as in many other instances where disintegration of the hard tissue has been produced, by the various known causes. In all these examples the newly formed hard tissue is known as secondary dentin, the development of which we desire to consider in this paper.

On the examination of teeth, we find we may have new tissue more or less continuously developed from the pulp, until the tooth is lost either by disease or as a result of old age. In other cases the new tissue may be developed, without any apparent cause, and the development may be either continuous or spasmodic until the whole of the pulp chamber becomes filled with this new tissue. Again, we may find it in the pulp itself more or less surrounded by pulp tissue in the form of pulp nodules, and as Prof. Jos. Archovy has designated certain growths "Odontoma internum liberum."

In any and all of these cases the new tissue is spoken of as secondary dentin. It will thus be seen that there is a variety of tissue grouped under the head of secondary dentin, ranging from the comparatively structureless tissue as seen in the pulp nodule to that of the complicated character known as osteodentin. (Figs. 1 and 2.)

It may enable us to better understand the development of this tissue if we divided it into classes. We shall, therefore, consider first, normal secondary dentin; second, dentin of repair; third, pulp nodules, and lastly, a form of secondary dentin found in teeth where pyorrhea alveolaris has been pronounced.

## NORMAL SECONDARY DENTIN.

In the first class we shall include all tissue produced apparently without any cause, the whole of the pulp and surrounding tissue being healthy at the time of the deposition of the tissue. A good example of such may be frequently found in those teeth perfectly free from diseases, such as decay or erosion. Nor have the teeth been worn down by attrition; yet on examination they are found to have their pulp chambers partially or entirely filled with new tissue. This tissue may be very varied in its microscopic appearance, from that of an almost structureless character to the more complicated containing lacunæ-like spaces, and frequently an innumerable number of tubuli. The tissue is usually found in the twelve anterior teeth, but perhaps more frequently in the lower incisors and canines. There is, as a rule, no inconvenience produced by its development, and its presence is only detected on examining the tooth after extraction.

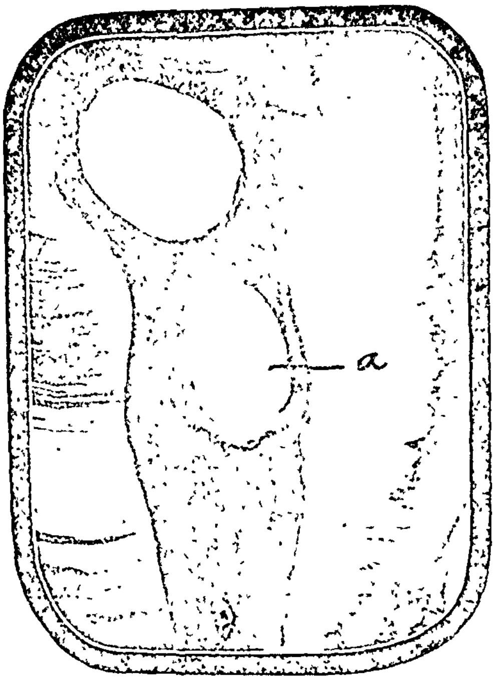

Fig. 1.—A pulp nodule, showing structureless character of secondary dentin.

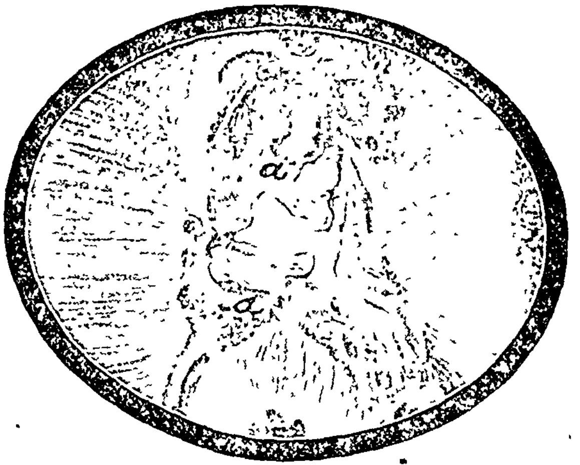

Fig. 2.—a. Osteodentin.

It would appear to be Nature's way of reducing the size of the pulp chamber, and is much more pronounced in those who have passed middle age. It is rarely found in pulp canals; the deposition commences usually at or near the apex of the pulp chamber, gradually working downward toward the point where the chamber is united to the pulp canal. Even when the tubuli are in large numbers they rarely assimilate with those tubuli previously formed; hence it is not at all difficult to define the line of demarcation between the two tissues. This line is usually very pronounced, owing to the fact that some time has elapsed between the calcification of the old tissue and the commencement of the deposition of the new, and as a consequence the first layer laid down usually appears structureless and often followed by a number of irregular spaces very similar in character to the intergranular layer of the dentin, and then if the deposition is continued, tubuli are regularly formed. If, on the other hand, from any cause the deposition is interrupted we have a mass of mixed tissue—structureless, lacunæ-like spaces, and tubuli, all mixed together. The development of this tissue is as follows: After the dentin has become perfectly calcified in a healthy tooth fresh formative material is brought to the pulp by the blood; this passing to the outer layer of the pulp by capillaries is taken up by the layer of globular or semi-globular cells (Fig. 3) surrounding the odontoblasts, and these cells become eventually calcified. As this calcification takes place the odontoblasts are restricted in size by compression and the odontoblast cells forced inward toward the center of the pulp, the constricted portion forming the tubuli. If the deposition is slow, the outer mass becomes very solid, and as a consequence structureless with few tubuli. If, on the other hand, it is rapid, some of the cells do not calcify and lacunæ-like spaces are thus formed with their canaliculi produced as minute spaces between the calcified cells. As this process goes on new cells are formed by cell division. If during the process of calcification any dense tissue is met, such as the walls of the blood-vessels (arteries or veins), the cells surround this dense tissue, and calcifying around them form the circular openings so frequently seen in the sections of this tissue, often carrying by pressure the odontoblasts with them, and thus tubuli are seen surrounding the openings. If, on the other hand, no dense substance is met, the calcification goes on continuously until the whole of the pulp chamber is filled with new tissue, thus producing the variations found in this tissue.

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

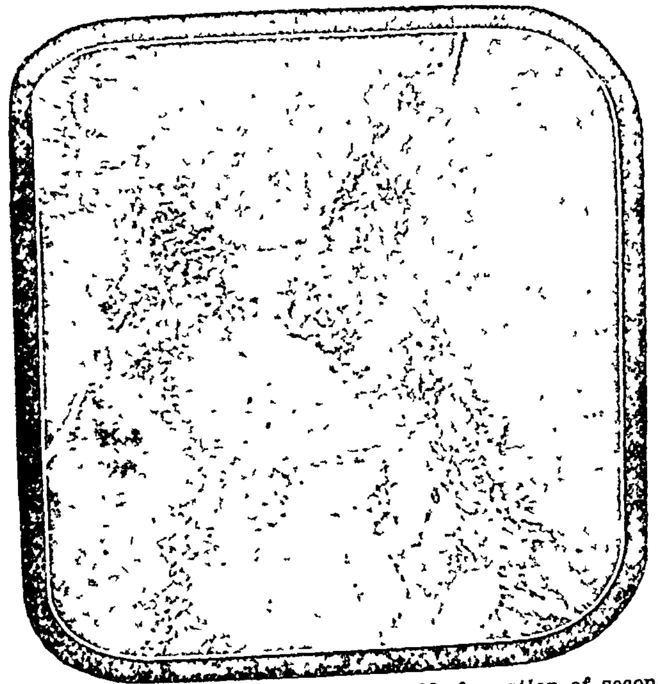

Fig. 3.—Pulp chamber superior bicuspid, formation of secondary dentin.

The cause of all this may be and probably is, the slight irritation—so slight that the patient is unconscious of it—produced in the pulp by the constant use of the teeth.

### DENTIN OF REPAIR.

The second class, and by far the most numerous, spoken of as dentin of repair, may be divided as follows: 1. That found in teeth with eroded surfaces. 2. That found in teeth that are decayed. 3. That found in teeth worn down by attrition and mastication. The pulp nodule is produced from quite a different cause—irritation produced in the pulp itself.

On the microscopic examination of the teeth placed in section 1—teeth with eroded surfaces—we have found in every tooth examined that there has been a deposition of secondary dentin. This new tissue assimilates that of normal dentin more than in those of the other sections; the line of demarcation is more pronounced following the area of the eroded surface. It is much more clearly defined and certainly more restricted in its development, having, as a rule, tubuli assimilating with the tubuli of the dentin, and apparently there is little or no break in their continuity. At the same time there appears to have been a marked change in the condition of the tubuli of the original dentin. Immediately under the eroded surface we find the tubuli of the original dentin very difficult, if not impossible, to stain. It appears as if these tubuli had been filled with some deposit from the outer surface of the tooth that prevents them from performing their usual functions. The function of the secondary dentin is to prevent any acute irritation passing from the eroded surface to the pulp itself. Owing to the restricted area of its development it would appear as if the deposition was caused by the slight local irritation produced in the earlier stages of the disease of erosion.

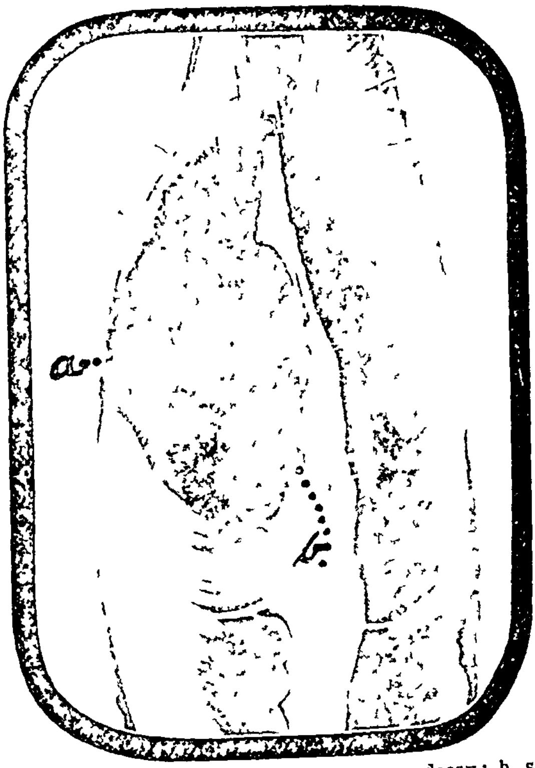

Fig. 4.—Secondary dentin under decay: a, decay; b, secondary dentin.

The development of secondary dentin in the second section is, as far as my examination goes, much more rare, and is found only in those cases where the decay has gone on slowly (Fig. 4) and the irritation to the pulp tissue has been as a consequence slight and continuous, but extending over a long period, differing from the former in microscopic structure. It varies very much in structure as well as in the area of its deposition. The earlier deposited tissue does not, as a rule, contain any tubuli, but a number of lacunæ with canaliculi. As the tissue increases in thickness it assumes more the character of normal dentin and a number of tubuli are developed. It usually spreads over a much larger area than that of the secondary dentin in eroded teeth, and does not terminate in such a pronounced or irregular manner. It would lead one to suppose that the irritation to the pulp tissue had been much more general. It is still an attempt by Nature to protect the pulp from the results of the diseased condition of the tooth, produced by the action of the spreading of the decay.

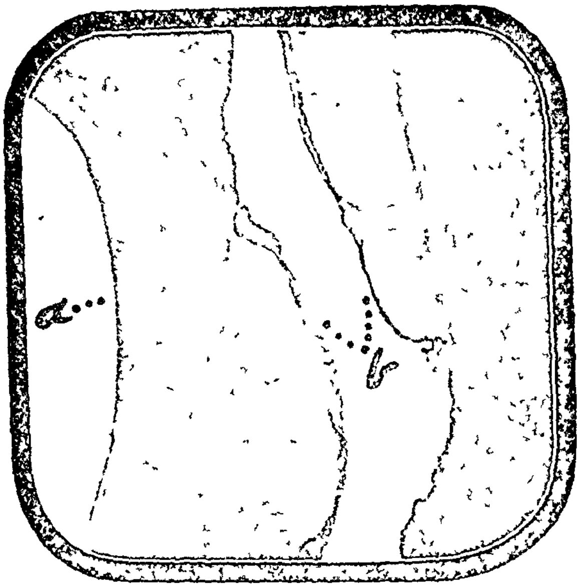

Fig 5 —Section of superior canine worn away at the sides by a metal band on artificial tooth plate; though the tooth is worn away by attrition, the deposition assimilates that found in eroded teeth a, Portion of tooth worn away by band, b, deposition of secondary dentin

In the form of secondary dentin placed in the third division, that produced by attrition or mastication, we have the teeth worn down oftentimes in extreme cases until the original pulp chamber has become exposed. The teeth usually affected by the attrition are the six front ones of both upper and lower jaw (Fig. 5)—those worn down by mastication, the bicuspids and molars. In either case the result is the same. The tissue is usually quite structureless at the commencement of the deposition, passing from that through either of the other forms until we have a mass of dense tissue all fused together and entirely filling the pulp chamber; so dense, that in extreme cases, even if the original pulp chamber has been exposed, there is little or no discomfort to the patient. This tissue is more like the tissue previously referred to as normal secondary dentin than that of any of the others. In all these cases the method of development has been the same, and the cause, that of irritation in one form or another; but in all cases the exciting cause has been from the outside, i e, from that portion of the tooth above the gum line.

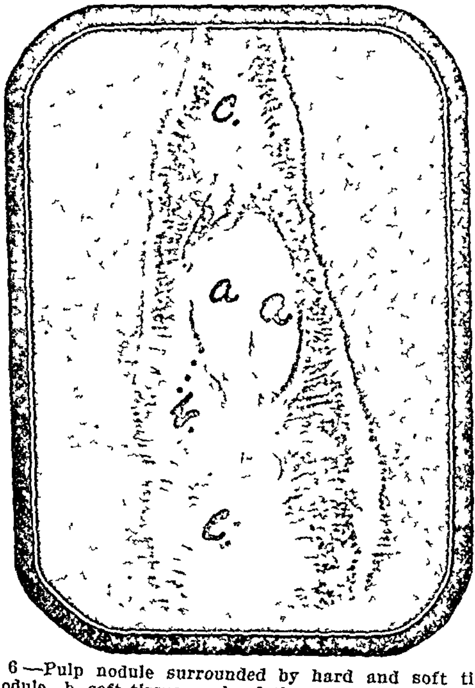

Fig. 6 —Pulp nodule surrounded by hard and soft tissue. a, Pulp nodule, b, soft tissue, c, hard tissue For nodule surrounded by soft tissue see Figure 1

### DEVELOPMENT OF THE PULP NODULE.

In this case we have a pronounced deposit of secondary dentin, either in the pulp chamber or the pulp canals, sometimes in both: but unlike the deposit in the previous sections, the nodule is always formed as a result of irritation in the pulp itself.

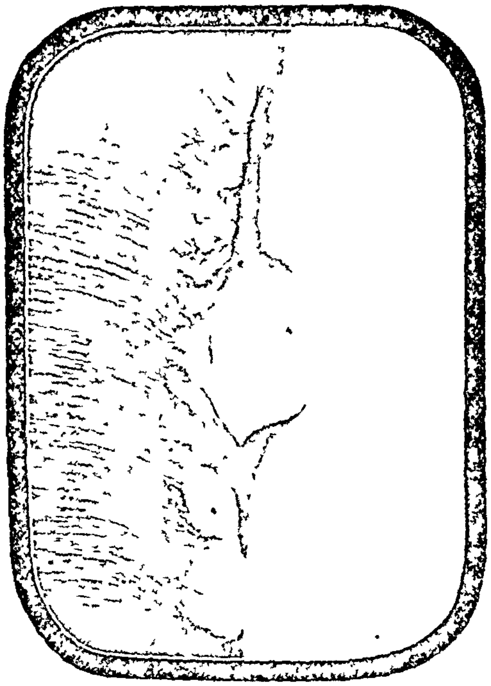

Fig 7.—Pulp nodule attached to original dentin with tubuli curved around nodule

On examining a tooth there is nothing in the external appearance to suggest the existence of even the smallest of pulp stones, nor can we take into consideration as a factor the age or sex of patients in the development of this tissue, as these nodules are to be found in the teeth of patients in their teens as well as in those of advanced age, and in many cases producing as much pain in the youngest as in those of old age. The result of my examinations tend to show that the position of the nodule is usually the cause of the pain produced.

In external appearance the nodules vary from a small more or less globular or oval structure to that of any size or shape, controlled only by the size of that portion of the canal or chamber in which they are found. Thus we have them from a minute point to those entirely filling the pulp chamber, and in teeth of two or more roots it is not unusual to find them not only filling the pulp chamber, but with spines of hard tissue passing into the various canals, and thus producing the most irregularly shaped nodules.

Their position is almost as varied as their outline, for, as I have already said, we may find them in the pulp canals and pulp chambers, quite free from the surrounding dentin, or we may find them attached to the sides of the pulp canals and quite surrounded by the dentin. (Figs. 6 and 7.) It is not the largest of these that cause the greatest amount of pain, as the pain is produced by the position and not by the size of the nodule. Thus a small nodule near the apex of the canal will probably produce pain by the constriction of the pulp (Fig. 8), and as a consequence pressure on the nerves, while a nodule much larger in size (unless there is pressure produced on the nerves) may almost entirely fill the pulp chamber without producing any discomfort. Though their size, shape and position may vary very much, such is not the case with regard to their microscopic structure. (Fig. 9.) All the nodules I have examined have a somewhat similar structure when viewed by the microscope. We have usually in the center or somewhere near the center of the developed tissue, a space more or less pronounced, and it is at this point that the nodule has its origin. (Fig. 10.) It grows outwardly, and radiating from this point there are usually a number of more or less concentric rings caused by additional layers of calcified tissue. It is in this way a nodule increases in size. This may continue until two or more nodules touch each other and become united into one, thus forming a compound nodule large and irregular in shape. Its structure, as thus seen, is quite different from either ordinary or secondary dentin. We may sometimes find a few isolated, irregular tubuli, but rarely do we find any tubuli approaching the character of those seen in secondary dentin. This may be accounted for by the fact that its origin is generally some distance from the odontoblastic layer, and the nodule is developed from a different layer of cells from that of secondary dentin. Its position would imply that no odontoblasts had taken part in its development, and if this is so, a very interesting question arises as to how these tubuli, if they are tubuli, are produced.

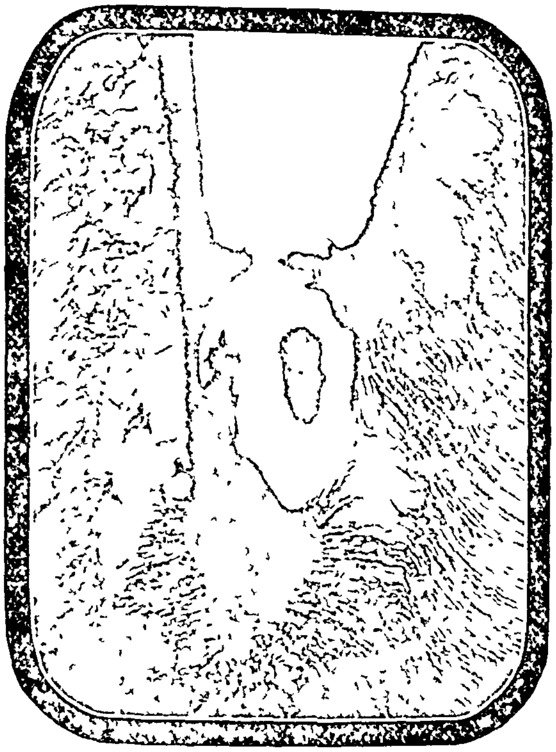

Fig. 8.—Nodule at apex of root canal, in this position causes great pain. The dense tissue almost surrounding nodule is pulp.

The origin of the development of the nodule is some irritation in the pulp itself, and I believe the primary object of the nodule is to cover up, by calcification, some substance that has been the cause of irritation in the pulp tissue. Its structure, as well as its mode of development, would lend itself to this supposition, for under the microscope we have a structure similar in appearance and I believe identical in its mode of development to that of the pearl found in the oyster, the origin of the pearl being a foreign body in the mantle of the mollusc. As it is impossible for the oyster to get rid of this foreign body by absorption, it builds around the cause of irritation that which is known to us as the pearl. So in the development of the pulp nodule the same has occurred. Nature has found in that delicate and complicated structure—the pulp—something it can not get rid of, something it can not absorb. The irritation produced by this something causes the pulp to endeavor to get rid of it; as, however, it can not absorb it, there is nothing for it to do but to encyst it.

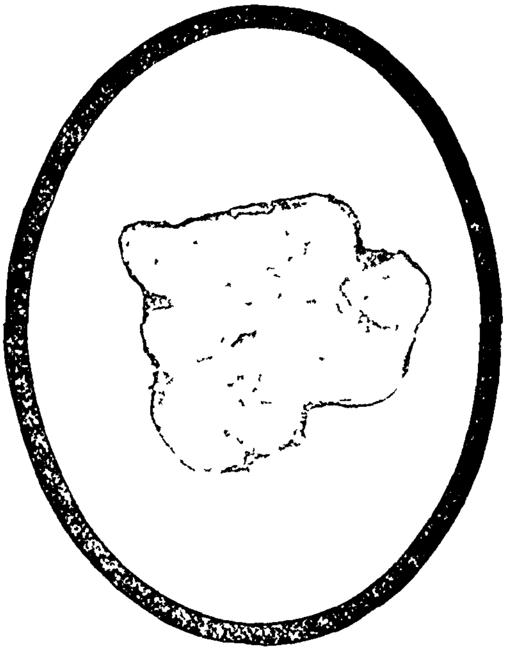

Fig. 9.—Section of pulp nodule taken from pulp chamber of superior molar.

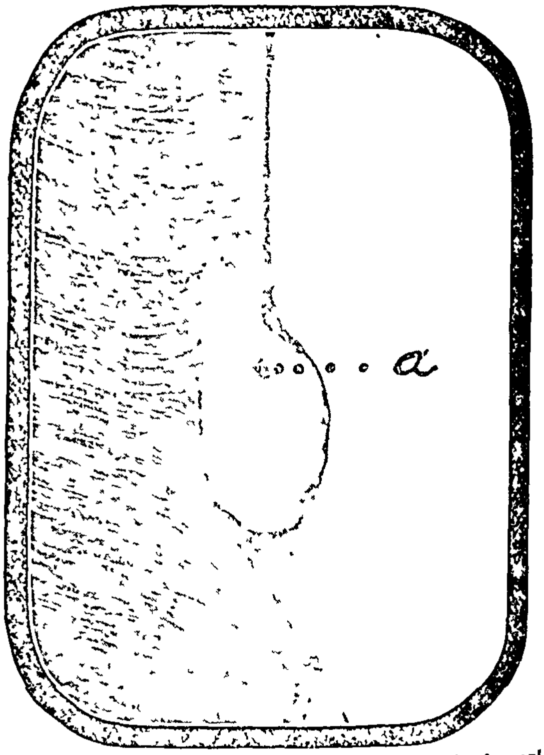

Fig. 10.—Pulp nodule showing what I believe to be origin of nodule at a.

If this is the true origin of the pulp nodule, we ought to be able to find in some pulps, as a result of microscopic examination, the exciting cause, and this exciting cause is, I believe, to be found in either a dead cell or cells, or perhaps, a few blood corpuscles that have by some means escaped from their ordinary course, either by the rupture of one of the capillaries or small blood vessels abounding in the pulp. Such an accident may occur by a sudden shock to the tooth, or, again, the corpuscles may be found out of their place as a result of the breaking down of some of the smaller arteries, veins or even the capillaries by disease, such as the pulp is exposed to.

I think the former method is the one that usually causes the development of the pulp nodules in our younger patients, while undoubtedly the changes in the pulp lend themselves to the development of these nodules as age advances. We will suppose from either of the above, or some similar cause, that such a change has taken place in the pulp, and as a result there will be irritation of a more or less pronounced character in this tissue produced by what has become a foreign body.

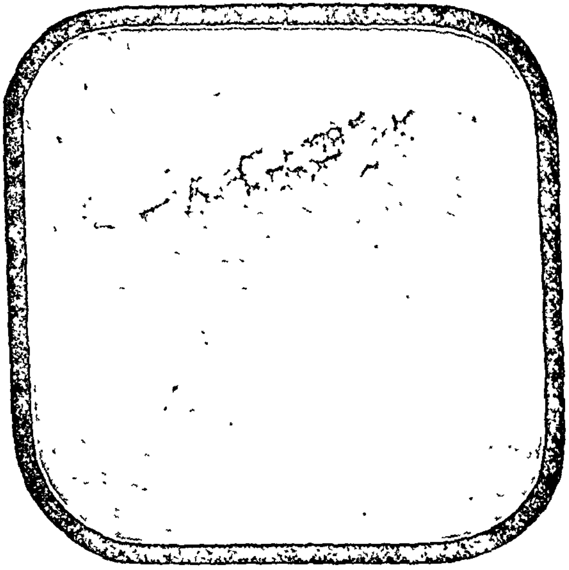

Fig. 11.—Interglobular spaces in dentin as seen in teeth affected by pyorrhea alveolaris. Note the globular character of the dentin.

There are no lymphatics for the reabsorption of this body; it does not require a very great stretch of the imagination to trace the growth of the pulp nodule on the lines laid down. The course followed would, I believe, be somewhat as follows: The irritation produced by the foreign body causes an increased activity in the blood vessels surrounding the cause of the irritation, and, as a necessary consequence, an increase of formative material brought to hand. This material is taken out of the blood by the surrounding cells, and it becomes a very simple matter for these cells to cover up the cause of the irritation by a deposition of hard tissue. This probably occurs as follows: The increased blood supply produced by the irritation causes immediate activity in the cells surrounding the cause of irritation, and the result of the activity is to produce a number of new cells. The pressure produced by this increase in the number of cells again increases the blood supply, and after a time the cells deposit a hard tissue in the same manner as the cementum is produced in exostosis.

As the deposition takes place in very small quantities, and probably very slowly, we have a more or less perfectly calcified and, as a consequence, homogeneous deposition. This accounts for the structureless character of the nodule.

Again, we sometimes have a larger mass more rapidly formed, and perhaps nearer or even including some of the odontoblasts in the newly forming mass. We shall then have variations in the structure, consisting of lacunæ with canaliculi, irregular spaces and a few markings like the tubuli of dentin. As the calcification of these cells continues, we shall have an increase in the size of the nodule. In some cases this increase causes a further irritation of the surrounding pulp tissue, and thus a constant supply of fresh formative material is brought to the cells. The increase of size eventually produces pressure on the nerves of the pulp and, as a consequence, frequently the most acute pain is experienced. This is the course, I believe, of the pulp nodule when surrounded by pulp tissue.

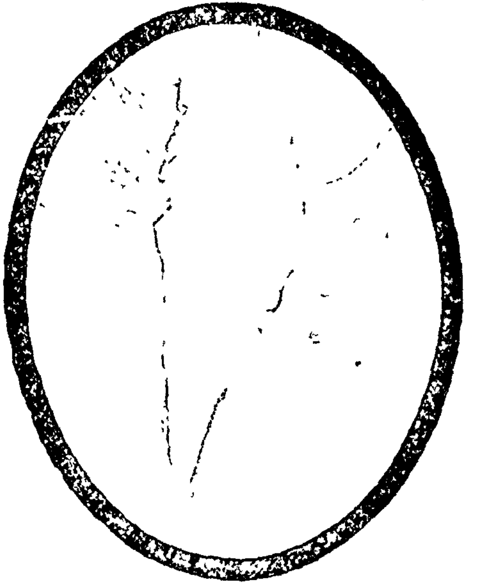

Fig. 12.—Absorption of dentin in teeth having pyorrhea alveolaris.

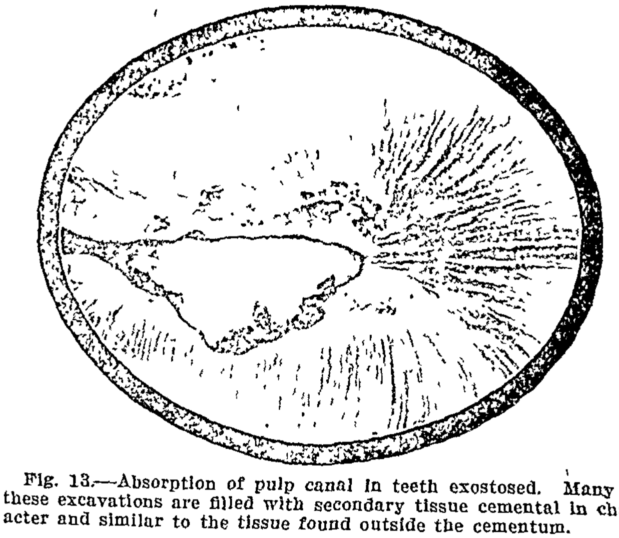

Fig. 13.—Absorption of pulp canal in teeth exostosed. Many of these excavations are filled with secondary tissue cemental in character and similar to the tissue found outside the cementum.

There is yet another class of nodule; though previously mentioned, it may be interesting to briefly follow its history. I refer to those nodules attached to the dentin. We may also, if we are fairly successful in our search, find them not only attached at one side, but entirely surrounded by dentin, and that at some little distance from the pulp canal. Wherever I have found these they have always been near the apex of the root and embedded in the last-formed dentin; and this, I think, gives the key to the explanation of the position in which the nodules are found.

At the time the cutting edge of the tooth is passing through the gums, the apex of the root is in an uncalcified condition, and with a new tooth in this position it is much more subject to a shock than it will be after it is fully erupted. As a consequence, we have a nodule formed in precisely the same manner as those formed in the pulp tissue, with this exception—those found in the pulp tissue are always formed after the calcification of the dentin has taken place, while the latter class are formed prior to the calcification of the tooth, and when first formed are surrounded by uncalcified dentin. Any careful examination of a tooth with nodules in this position will fully illustrate my meaning, as the tubuli of the dentin will be found to be bent around the nodule, proving the nodule must have been formed prior to the calcification of the dentin. If it had been otherwise and the dentin had been absorbed to make a space for the nodule, we should then have found the tubuli ending abruptly at or near the margin of the nodule, but this is not the case. (See Figs. 7 and 10.)

This will also account for the nodules found in the pulp canals but attached to the dentin, and here, I believe the development has been the same as in nodules surrounded by dentin.

### DENTIN ASSOCIATED WITH PYORRHEA ALVEOLARIS.

The last of the forms of secondary dentin we wish to draw your attention to is to be found in the pulp chambers and pulp canals of teeth having been removed owing to the pronounced action of pyorrhea alveolaris. In all the teeth examined (about 100) the original dentin has been of very poor structure, containing a large number of interglobular spaces (Fig. 11); the dentin generally badly calcified and more or less absorption of the cementum and sometimes the dentin at the apex of the root. (Fig. 12.) In the pulp itself the first thing that attracts our attention is the absorption of a portion of the original dentin forming the pulp chamber and canal, probably the result of acute inflammation prior to the development of the secondary dentin. The new tissue is very varied in character, and apparently consists of a mixture of tissue similar in structure to that found in the previous cases, with the addition of a very large amount of isolated globular secondary dentin wherever there is a piece of pulp tissue; so that the whole of the pulp chamber canals are more or less filled with either secondary dentin as previously described, or an innumerable number of these globular bodies, generally isolated, but sometimes, though very rarely, found fused together. I have noticed similar excavations in the pulp canals of teeth that are exostosed, but with this difference: the cavities in the latter case are frequently filled with secondary tissue like the additional layer or the outside of cemental tissue. (Fig. 13.) In the case of pyorrhea alveolaris, the excavations are not filled with any special tissue.

All the microscopic slides used for illustrating this paper are hard sections ground down, as I believe decalcification in any form is liable to alter the conditions of the tissue under examination.

63 Grand Parade.

## DISCUSSION

### ON THE PAPERS OF DRS. CONSTANT, MORGANSTERN, CAUSH AND RÖMER.*

Dr. Eugene S. Talbot, Chicago—Just where the dental papilla leaves off and the dental pulp begins is a question worthy of discussion. What is called the dental papillæ still requires a large amount of research, especially along the line of histology. It was for the purpose of bringing this organ more forcibly to the notice of the profession that I had instituted these symposiums from year to year in our proceedings, and I trust that more work will be done on the histology, physiology and pathology of this structure. The pathology in erupting teeth is clear. No matter what the propelling force may be, there is an irritation set up around the crown of the tooth in the alveolar process. This irritation produces inflammation. Halisteresis and Volkmann's perforating canal absorption are set up and room is made in the bone for the advancing crown. The same inflammation, although not quite as severe, sets the bone cells at work, at the border around the root, thus forcing the tooth forward. It is barely possible that these bone deposits are what Pierce intended to illustrate by pounding on the barrel to remove the bung. If Mr. Constant is correct in his theory, so far as the starting of the crown is concerned, I may agree, but certainly it would not account for the eruption of the tooth after the roots had begun to form. The blood space is so small and the resistance so great, that it would appeal to me to be due rather to the bone cells filling around the roots than to blood pressure. What is true of the eruption of teeth also holds good in teeth that have lost their antagonism years after the roots are completely formed. In regard to root absorption, I do not understand the difference between pathologic and physiologic absorption of roots or bone tissue. Absorption is absorption, regardless of the irritation and inflammation. The only difference I can see is one of degree and form. The death of the pulp *per se* does not make the root incapable of absorption, as suggested by Mr. Constant, nor does the crown impinging on the dead root always cause the deflection.

There are three forms of bone absorption—osteoclast or lacunæ, halistersis, and Volkmann's perforating canal absorption. All are brought about by irritation and inflammation. Root absorption is always due to osteoclast or lacunæ absorption. It makes no difference whether the pulp of the tooth is alive or dead, this absorption is the same. If the pulp is dead, the absorption is much greater than when alive, as witnessed in implanted teeth. When the pulp of a temporary tooth is destroyed or dies, irritation is set up at the end of the root, inflammation of the peridental membrane and alveolar process takes place, and the surrounding bone and trabeculæ or fibrous tissue which hold the lime salts together are destroyed. Since it is necessary for the trabeculæ or fibrous portion of the alveolar process to be present in order to hold the osteoclasts, it being destroyed, the osteoclasts can not absorb the roots of the temporary teeth. The remark of Sudduth that the absorbed and the absorber must be in close connection is very apt in this case. The alveolar process having been destroyed, the root of the temporary tooth is only held in position at the cervical margin by the gum and alveolar process. The deflection of the root, therefore, may be simply the result of mastication, and not always caused by the crown of the permanent tooth.

We are obligated to Mr. Constant not only for his paper, but his presence at this meeting, and while we are not so many in number, yet I can assure him that the theories advanced in his paper will ever after be associated with his name in relation to this subject in this country. The purely scientific men in this country or abroad are few, but there is this satisfaction to him as well as to us, that we are trying to advance our specialty along given lines regardless of nationality.

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* The paper of Dr. Constant appeared in The Journal January 16; that of Dr. Morganstern, January 23; that of Dr. Römer, February 6.

DR. M. H. FLETCHER, Cincinnati—I would like to ask Mr. Constant why the tooth is not pushed forward after the root is completed.

MR. T. E. CONSTANT, Scarborough, England—Dr. Fletcher and Dr. Talbot apparently are at a great difference on the same point. Dr. Talbot says that he agrees that the tooth could commence erupting, but does not believe that after it is formed there would be force enough to keep it coming up. That is what I pointed out. In the illustration there is a broad base of vascular tissue on which the tooth rests; consequently, the lifting force is very great. There is a little extrusive force in the peridental membrane, as occurs when there is inflammation of the pericementum, when the tooth is raised in the socket. The reason the tooth is not entirely extruded is that while the pulp is alive the alveolus accompanies it to a certain extent and by the time the alveolus has gone a little beyond the normal level the fibrous tissue in the pericementum has developed to such an extent that it forms a ligament for the tooth, and this development of the fibrous portion of peridental membrane ties the tooth in its socket. I did not explain that in the paper, because I believed it would go without saying.

DR. M. H. FLETCHER, Cincinnati—If I understand the condition that Mr. Constant describes, it seems to me that the subject, for the purpose of discussion, might be divided into the physical properties and the chemotactic or the opposite of the physical. His hydrodynamic theory of the pressure from below, by the pumping of the blood, seems to me the most satisfactory explanation we have heard—if we must have a physical explanation for the process of eruption of the teeth. It is not clear to me, however, that we need such a theory. To take another view of the subject, we will consider movements which can hardly be classed as mechanical or physical, which, from my point of view, should be considered in this connection. The peristaltic motion of the intestines is an example of the extrusion of effete bodies; this is muscular and consequently mechanical, but the extrusion of foreign bodies or pus from the flesh is not mechanical in the same sense, but is more like the eruption of a tooth. The expulsion of the ovum from the ovary, however, is seemingly a force of a different type, and I do not see that we could class it with either hydrodynamics or mechanics; again, when the ovum is about to be expelled, the fimbriæ of the fallopian tube reach out and embrace the ovary. We can easily understand how, when the ovum is discharged into the fallopian tube, it may be forced along by the ciliated epithelium. But why do we have the rising to the surface of the ovum? What is it that causes the fimbriæ of the fallopian tube to grasp the ovary? We have here powers in physiology which, to my mind, explain more fully the mechanism or the processes of the eruption of the teeth than any mechanical explanation. To cite other processes which should be weighed in this connection, consider the attraction for each other, of the male and female elements in fertilization. After fertilization then comes segmentation of the ovum. What is it which causes this proliferation of cells and the differentiation into epiblast, mesoblast and hyoblast? Here are forces which seem to me can explain the process in question. Why do we have the development of two or three roots in the molar teeth and single roots in the incisors? This differentiation of structure in the development of tissue, I believe, is yet unexplained, but it must be accepted just as we accept the production of electricity by dynamos, the law of gravity and many phenomena of the universe which as yet we do not comprehend. The unexplained chemotactic attraction or repulsion of organic bodies or cells, in the study of karyokinesis, is a most striking example of an unknown force which I believe must be the one involved in the eruption of the teeth; in other words, I believe the movements in this process must be looked for in the study of cytology rather than in mechanics. The kinetic energy which divides the nuclei of cells and drives the separated parts into opposite ends of the cell, resulting in the mother and daughter elements, is a force which must be taken into account. The multiplicity of this force, created from the myriads of developing cells found in embryonic and growing tissue, certainly would create an energy much greater than is required for the eruption of the teeth. I should be pleased if the theory of Mr. Constant could be accepted as final in this problem, but to me his mechanical plan is not the most scientific way of working it out, although I believe it may be one step toward the solution. If we can determine that this is really the process or even a part of the process, we are nearing the solution, not only of this problem, but of many others within the domain of biology.

DR. HANS PILCHER, Vienna—I believe, with Dr. Fletcher, that we do not know all about the evolution of the teeth. We do not know the cause that starts the whole thing. We do not know the cause that starts the first labor pains, the first movement toward the birth of the child. I believe we know now the mechanical forces which bring about the movement in the tooth. The theory of Mr. Constant seems so extremely natural to me that I believe in it to its fullest extent. In some way the process can not be entirely mechanical. If there is not something that induces an increased pressure in the pulp tissue there would be a similar pressure from the other parts, even though they may consist of hard bone. I believe that the vasomotor nerves or the trophic nerves must have their influence in this particular kind of movement. I would like to ask whether any one has observed in a case of acute inflammation of the peridental membrane that a tooth did not elongate because the roots had not the conical form. I do not believe there is such a case, with the exception of cases in which there is very great divergence which would make a mechanical impossibility of the tooth coming out. It seems to me that those teeth in almost all cases elongate, so I believe the increase of blood supply in the peridental membrane may be taken as an explanation of the final coming out of the tooth.

DR. A. E. BALDWIN, Chicago—I believe there is no law of dynamics or of science whereby we can fully explain these so-called physiologic laws. The explanation mentioned by Dr. Fletcher of the discharge of the ovum is not fully accepted, although it seems to be the most plausible explanation extant. I have long since dismissed as unworthy of consideration the theories advanced regarding the eruption of the teeth and that advanced by Mr. Constant seems to me the nearest approach to a solution.

DR. M. L. RHEIN, New York—It affords me the greatest pride and satisfaction to have been the chairman of this section at a time when this paper has been presented to us. Dr. Pilcher brought up a very interesting question bearing on this forcing up of the tooth and whether it was more common in conical roots than in teeth with roots turned and twisted. In comparative anatomy, we all realize how the conical tooth of the rodent will ultimately cause the death of the animal if the occluding tooth is lost, showing continuation of this force at work. Of course, the tooth does not have the periosteal ligamentous attachment that we find in the human tooth. In the same way in clinical work on the anterior teeth, especially the superior incisor, one of the most distressing forms of peridental disease is the sudden commencement of elongation of one of the incisor teeth, carrying with it the additional formation of the pericementum of the root itself. There are two points about this pathologic condition that appear to me to strongly confirm the ideas presented to us. The first is the fact that the shape of the roots of these teeth is very conical, and there is nothing in their shape that in itself would prevent such a forcing out of the tooth. The view presented by Dr. Pilcher, and in conjunction with this a number of radiographs that I have taken of such teeth have shown little nodular deposits on the pericemental tissues at different points of the root surface. The connection between these nodular deposits and the forcing out of the tooth has never been clear to me until I listened to Mr. Constant's paper. It seems almost conclusive to me that this has interfered with the retentive force of the ligamentous tissue that holds the roots in the position they should occupy when they have been properly erupted. The second reason is that I have failed to see one case of this kind in which this process of elongation has not stopped as soon as the pulps of these teeth have been removed; and, in a number of these cases, I have found in sealing of the ends of the roots, orifices that were larger than those often found in an ordinary tooth. These are some of the instances that keep coming back to me in thinking of the practicable adaptability of these views, and the more I have thought of them the more have I been impressed that Mr. Constant's theory is the most scientific interpretation of the physiologic action of eruption of all heretofore presented. I feel that this section has been highly honored in being the vehicle of presenting this paper to the scientific world.

Mr. Constant—First, I thank you for your very kind remarks and the kind manner in which you have received the theory that I have placed before you. It would be impossible in the short time at my disposal to enter fully into every fact with regard to the eruption of the tooth. All that I desired to point out was that the very simplest fact in the *whole problem* had been ignored. It was not my intention to enumerate the things we did not know. When we say that we do not know why the ovum comes to the surface of the ovary, I think that there certainly must be something other than the mere mechanical force in connection with the eruption of the teeth. I think they are reasons we all fully recognize, but I do not think they are reasons for putting forward the purely mechanical side and ignoring the other. Dr. Talbot stated that he did not think there was any difference in the removal of roots of temporary teeth by resorption and by absorption. On that point I disagree.

Dr. Talbot—I said in roots that had dead pulps and implanted teeth. [Dr. Talbot here reread the statement referred to.]

Mr. Constant—I inferred from that that Dr. Talbot was of the opinion that whether a temporary tooth was alive or dead, exactly the same process of absorption occurred, but I see that it does not admit of that construction. My contention is that it is rather more than a question of degree. The appearances, so far as I have seen them, seem extremely different in the two instances. In the one case you get very sharply clear-cut nodules of the edge of the root. In the case of the root of a temporary tooth in which the pulp is being destroyed (I am speaking now entirely of the macroscopic appearance) the surface of the dead root is covered with thick membrane and the edges of the absorbed part are smooth. That is what I term the result of pathologic process of absorption. The physiologic process of resorption which takes place when the pulp is alive differs very markedly, that difference being the sharp margins and the absence of one thickened membrane, which has the greasy feel in the other case. Dr. Talbot speaks of the process of the removal of subadjacent tissue from the advancing crown as a process of inflammation. I do not like the term, inflammation, used in that connection. I do not want to enter into the point of exactly what takes place during the removal of subadjacent tissue, as I wish the simpler point to be cleared up first. Until we are in agreement as to the mechanical force which brings the tooth to the surface we can make no progress. Until we can determine the process by which the tooth comes up it is idle to discuss more complex questions. The point I wished to bring before you, and which I have succeeded in making clear, is that mechanical part of the process which is the simplest and it is the part that has been ignored. That there is a mechanical force there can be *no doubt in the mind of any* dentist who has seen a tooth pressing on the gum before eruption. It has been urged that the tooth came up simply because the subadjacent tissues are removed; but that idea would be dismissed after close observation. In regard to a corroborative point, I ventured in the paper to touch on pathologic conditions, and I can assure you that since I have worked out this theory, some years ago, I have found no pathologic condition that has caused the slightest doubt in my mind as to the applicability of the theory. The point that the chairman mentioned and which would strongly confirm the view is, that in the case of a six-year molar, in which the pulp has been prematurely destroyed, one finds afterward that that tooth does not come up properly into line as do teeth in which the pulps have not been destroyed, and when it does it is not accompanied by any corresponding growth of the alveolaris; that is to say, there is slight extrusion, but not sufficient extrusion to bring it into occlusion with the opposing tooth.

Dr. M. L. Rhein—A point in corroboration of the fact that removal of the tissue is not sufficient to aid in the eruption of the teeth, is the occurrence that we have all seen so often, the premature lancing of deciduous teeth and the reformation of scar tissue, even though the lancing is done in the most thorough manner. I simply mention this as a corroborative point and one which is conclusively clear.

# SPLENIC ANEMIA;

## REPORT AND DEMONSTRATION OF A CASE.*

M. J. LICHTY, M.D.

Lecturer on Medicine and Physical Diagnosis in the Cleveland College of Physicians and Surgeons; Visiting Physician to the Cleveland General Hospital; Visiting Physician to the Cleveland City Hospital.

CLEVELAND, OHIO.

Mrs. S., aged 32, who was referred to me last fall through the kindness of Dr. Rosenwasser, gives the following history: The family history, including that of uncles and aunts and grandparents, is negative. She was born and reared in this city; has never lived in a malarial district; has had no venereal disease and was a healthy girl, never having had any serious illness. She was married at 26, and has two healthy children. She has never had any miscarriages. In March, 1900, more than three years ago, she noticed that she was losing weight and strength, and that her feet and ankles were swollen. The abdomen also increased in size, and both the feet and abdomen were tender to touch. The menses became irregular, appearing at intervals of six weeks, or three and sometimes even five months. These symptoms continued more or less uniformly for more than two years, though the abdomen seemed to increase in size constantly, so that she presented the appearance of a pregnant woman. She also soon noticed a large hard mass in her left side beneath the ribs. For two years also she was attacked with frequent attacks of severe bleeding from the nose. In July, 1902, one year ago, she was suddenly seized with a severe and serious gastric hemorrhage. She thought she vomited more than three pints of blood. Blood was also noticed in the stools for several days after. The hemorrhage, she said, caused more weakness and exhaustion than she had noticed at any time since the beginning of her sickness, and convalescence to her former condition was very tedious.

In September, 1902, she called on Dr. Rosenwasser, who referred her to me for an examination of her blood, as well as any other examination which I should care to make. The mass which she had noticed in her left side could easily be felt without complete removal of her clothes. It was in the splenic region, had the shape of the spleen, moved with respiration, was not very tender to touch and was supposed to be the spleen. The thought of a nice case of splenic leukemia at once presented itself. To my surprise, however, the blood was entirely different from that found in the usual case of leukemia. The hemoglobin was 50 per cent., the number of red blood corpuscles was 4,288,000, and of white corpuscles 4,000—a leucopenia instead of a leucocytosis. A differential count of white blood corpuscles showed nothing abnormal in the proportion of lymphocytes and polymorphonuclears found in health. Only a few eosinophiles were found, a few nucleated red corpuscles, no megaloblasts, and there was no poikilocytosis. The corpuscles were uniform in size.

The enlarged spleen, hemorrhages and the blood with a marked anemia, low color index and leucopenia, were the three important physical signs pointing toward the diagnosis of splenic anemia. Other physical signs noticed then and since are as follows: There is poor nutrition, pallor, no icterus and no cyanosis. The face shows considerable pigmentation, so that she does not appear anemic. The reflexes are normal and there is no glandular enlargement. The feet, ankles and legs as far as the knees are much swollen, though there is no pitting on pressure. The chest is small and the intercostal spaces are sunken. The abdomen measured 31 inches in circumference. The lungs were apparently normal. The physical signs of the heart were very interesting. The base of the heart is in the second intercostal space to the left and the apex in the fourth. The chest wall is so very thin that one can hardly say whether there is a palpable thrill or not over the heart. The heart is perhaps slightly enlarged, unless the thin chest wall only makes it appear so. In the second and third intercostal spaces to the left there is a loud systolic murmur not transmitted much beyond the area of the heart. It does not disappear nor seem to be modified much by change of position. At some of the subsequent examinations the murmur was much less distinct. I am unable to come to any satisfactory conclusion as to whether this is a hemic or organic murmur. (The same kind of a murmur has been found in several cases which I have collected, though in only one, that reported by Hawkins, was any lesion found at autopsy. In his case there was a stenosis of both mitral and aortic valves.) The liver extended from the fourth intercostal space to three-finger breadths below the costal border. It was smooth with a round edge and not painful. The spleen extended from the sixth intercostal space in the left axillary line and the eighth in the back, to the crest of the ilium and almost as far forward as the median line. A notch could easily be felt, if not seen, in the anterior border. The spleen also is smooth with round edges, not painful to touch, and is rather firm. The kidneys are not palpable. The lesser curvature of the stomach is about two finger breadths above the umbilicus and the greater curvature three or four below the umbilicus. The abdomen was very prominent and there seemed to be some free fluid in it. The urine was highly colored, acid, contained a trace of albumin, but no casts.

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* Read before the Cleveland Academy of Medicine.

Dr. Rosenwasser prescribed Fowler's solution in increasing doses, and she seemed to improve at once. In November he referred the case to me for treatment. She was then feeling very much improved, though the physical signs were about the same as six weeks before, except that there was perhaps more anemia, hemoglobin 53 per cent., erythrocytes 3,252,000, and leucocytes 3,500. The ascites was also more marked, the abdomen being 34 inches in circumference, and there was much more albumin in the urine with some casts. The swelling of the feet, however, was disappearing. It seemed that the albumin increased in quantity as the dose of the Fowler's solution was increased. When the ascites was most marked there was a scant, highly albuminous urine, and there was much diarrhea. In February the arsenic was discontinued. In March there was only a trace of albumin and no casts. Instead of arsenic she has been taking three times daily two drams of glycerinated extract of red-bone marrow. This has seemed to agree with her, and though the blood examinations are not so very much better, if any, she at the same time feels much better. For the diarrhea and ascites there were given three times daily five grains each of diuretin and salicylate of bismuth. She was also given a very scant diet of bread, butter and milk only. Under this regimen she improved rapidly, the diarrhea and ascites having disappeared in less than a month when the abdomen was again 31 inches in circumference. In spite of her limited diet she has gained in strength. In April the menses appeared, the first time since November, 1902, lasting one week, nothing abnormal. She has menstruated again in May and June. She has not been confined to her bed since the hemorrhage of nearly a year ago. She calls at my office for treatment, does her own house work, has a good appetite, sleeps well, walks considerably, is not dyspneic, and is one of the most cheerful and hopeful patients to be found. Blood examinations during the last nine months are as follows:

| | Hemoglobin, Per Cent. | Red Blood Corpuscles. | Leucocytes. |
|---|---|---|---|
| Sept. 27, 1902.......... | 50 | 4,288,000 | 4,000 |
| Nov. 15, 1902.......... | 53 | 3,252,000 | 3,500 |
| Dec. 10, 1902.......... | 45 | 3,021,000 | 2,000 |
| Jan. 20, 1903.......... | 50 | 3,290,000 | 1,000 |
| March 26, 1903.......... | 30 | 3,800,000 | 3,200 |
| April 27, 1903.......... | 50 | 3,768,000 | 5,000 |
| June 5, 1903.......... | 58 | 4,324,000 | 4,000 |
| Average............ | 48 | 3,678,000 | 3,230 |

A differential count of leucocytes was also made the last time that she called at my office, a week ago. Altogether 250 leucocytes were counted, of which there were 12 large lymphocytes, 42 small lymphocytes, 182 polymorphonuclears and 14 eosinophiles. In this count there were also noticed 13 normoblasts and 10 megaloblasts. There was no poikilocytosis. The daily quantity of urine recently has been about 30 to 40 ounces, and the last specimen of urine examined was cloudy, acid, specific gravity of 1016, a small quantity of albumin, a few granular casts and considerable pus.

The term "splenic anemia" is not an old one. Many of the older, and even some of the newer, text-books do not use the term at all, though the terms "pseudoleukemia," "primary splenomegaly," "splenic anemia," and "Banti's disease" have been used more or less synonymously for some time. Wentworth says the name "splenic anemia" was "employed first by Gretsel and Greisinger in 1866 to describe cases of severe anemia associated with chronic enlargement of the spleen. Greisinger believed these cases to be the splenic form of pseudoleukemia." In 1870 H. C. Wood of Philadelphia reported several cases of pseudoleukemia, only one of which, however, was quite typical of the condition as considered in more recent years. Osler says that to Wood belongs the credit of first presenting the subject to the profession in this country. There were recognized two forms of pseudoleukemia previously, one in which the lymphatics alone were involved, and the other in which the lymphatics and spleen together were involved. Wood said: "I now desire to show that there is still a third form of pseudoleukemia—a splenic variety. Under the names, tumor of the spleen, splenic cachexia, etc., from time far back, medical records furnish accounts of cases which I believe represent this affection."

There is no doubt that one of Wood's cases was typical, though even that case had some glandular enlargement. And to him no doubt also belongs the credit of priority in this country which Osler gives him, though Woods himself did not use the term "splenic anemia," and his report appears as "A Case of Splenic and Lymphatic Hypertrophy Without Leucocythemia (Hodgkin's Disease, Adenia, Pseudoleukemia)," and it is probably on account of the title of his paper that the paper has been overlooked by some. In response to a note to Dr. Wood, in which mention was made of such credit belonging to him, he said: "I was not aware that I had the honor you speak of in your letter, but I did know that my older papers had been absolutely overlooked by some among American literature on the subject." Since 1866 and 1870, however, the term has been used quite frequently both here and in Europe, and a considerable number of cases have come into literature. The subject has been studied carefully by both physicians and surgeons. But with the single exception of Dr. Osler it has not been the fortune of any one to see more than a few cases. Both Wentworth and West have said within the last few years that aside from Osler's cases there are perhaps not more than 30 authentic cases reported. This number is no doubt too low. But in the last few years several new cases have been

TABLE OF THIRTY-FOUR CASES OF SPLENIC ANEMIA.

| Number. | Reported by | Initial. | Age. | Sex. | Previous History. | Melanoderma. | Splenic Enlargement. | Blood. | | | Hemorrhages. | Liver Enlarged. | Ascites. | Swelling of Feet. | Glands Enlarged. | Gastro-intestinal Symptoms. | Heart (symptoms). | Kidney (symptoms). | Treatment. | Result. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Hemoglobin. | Red Blood Corpuscles. | Leucocytes. | | | | | | | | | | |
| 1 | Wood | M. | 30 | M. | Syphilis. | No. | Yes. | | | * | No | Yes. | No. | Yes. | Yes. | Diarrhea. | No. | No. | Medicinally | Died. |
| 2 | Osler | | 36 | M. | Malaria. | " | " | | 2,000,000 | | Gastric | No. | Yes. | " | No. | No. | " | " | " | Died; hem. |
| 3 | " | | 11 | F. | Negative | " | " | | 2,250,000 | 7,120 | " | " | No. | " | " | " | " | " | | |
| 4 | " | | 35 | M. | " | " | " | | | * | Gastric and intestinal | " | " | No. | " | " | " | " | Medicinally. | Died; hem. |
| 5 | " | C. D. B | 33 | M. | " | " | " | 25 | 3,000.000 | 2,800 | " " | " | " | " | " | " | " | " | Operation | Recovered. |
| 6 | " | A. B. | 40 | M. | " | " | " | 30 | 4,000,000 | 6,500 | " " | " | " | " | " | " | " | " | " | Died; gastric hem. |
| 7 | " | W. H. | 30 | M. | " | Yes. | " | | 2,184.000 | 12,497 | Gastric | " | " | " | " | " | " | " | Medicinally | Recovered. |
| 8 | " | W. R. | 40 | M. | " | " | " | 55 | 4,816,000 | 5,000 | No | " | " | " | " | " | " | " | " | Improved. |
| 9 | " | P. N. | 56 | F. | " | No. | " | 60 | 3,600,000 | 3,000 | " | " | " | " | " | Diarrhea. | Systolic murmur. | " | " | " |
| 10 | " | D. S. C. | 58 | M. | Malaria. | " | " | 60 | 4 188,000 | 5,200 | " | Yes. | Yes. | Yes. | Yes. | No. | No. | " | " | Died. |
| 11 | " | C. B. | 39 | M. | Malaria and Syphilis. | Yes. | " | 45 | 4,128,000 | 2,800 | Gastric | " | No. | No. | " | " | " | " | " | Improved. |
| 12 | " | J. K. E. | 57 | M. | Negative | No. | " | 40 | 2,500,000 | 3,000 | No | " | " | " | No. | " | " | " | Operation | Died. |
| 13 | " | L.F.W. | 40 | M. | " | " | " | 45 | 4,208,000 | 4,000 | Gastric | No. | Yes. | " | " | " | Systolic murmur. | " | Medicinally. | Improved. |
| 14 | " | E.W.S. | 35 | M. | " | Yes. | " | 55 | 3,856,000 | 4,500 | From kidneys. | Yes. | No. | " | " | Yes. | No. | " | " | " |
| 15 | " | J. F. | 43 | M. | Malaria. | No. | " | 45 | 4,270,000 | 2,500 | Gastric | " | " | " | " | No | " | " | " | " |
| 16 | " | F. G. | 30 | M. | " | " | " | 30 | 3,300,000 | 2,400 | Gastric and intestinal | No. | " | " | " | " | " | " | Operation | Died. |
| 17 | " | M. W. | 40 | F. | " | " | " | 47 | 2,500.000 | 1,500 | No | Yes. | Yes. | Yes. | " | " | " | " | Medicinally. | Recovered. |
| 18 | " | A.L.W. | 33 | M. | Negative | Yes. | " | 53 | 3,026,000 | 6,875 | From nose | " | No. | No. | " | " | Mitral murmur. | " | " | Improved. |
| 19 | Sippy | A.B. | 45 | M. | " | " | " | 30 | 1,740,000 | 5,214 | " " | " | Yes. | Yes. | " | Yes. | Murmur. | " | " | Died. |
| 20 | Talley | M. A. | 34 | F. | Malaria. | No. | " | 56 | 2,000,000 | 7,000 | " " | No. | No. | No. | " | No. | Mitral murmur. | " | " | Recovered. |
| 21 | Benedict | T.B.C. | 40 | M. | Negative | " | " | 55 | | | No | " † | " | " | " | " | " " | " | " | " |
| 22 | Hawkins | Italian | 37 | M. | " | Yes. | " | 40 | 2,000,000 | 4,000 | From nose | Yes. | " | " | " | Yes. | Pulmonary murmur | " | " | Died. |
| 23 | Brill | D. W. | 34 | F. | " | " | " | 65 | 3,800,000 | 6,408 | From mouth and gums | " | " | " | " | No. | No. | " | " | Improved. |
| 24 | " | M. R. | 30 | M. | " | " | " | 55 | 3.800,000 | 5,120 | From nose and bowel | " | " | " | " | " | " | " | " | Not improved. |
| 25 | Harris and Herzog | E. O. | 22 | F. | " | " | " | 40 | 2,631,000 | 2,650 | Gastric | No. | " | " | " | " | " | " | Operation | Recovered. |
| 26 | " " | R. | 47 | M. | " | " | " | 50 | 3,364,000 | 28.200 | No | " | " | " | " | " | " | " | " | " |
| 27 | Barr | | 48 | M. | " | " | " | 40 | 2,400,000 | 5,000 | From stomach and nose. | Yes. | Yes. | Yes. | " | " | Mitral and tricuspid murmurs. | " | Medicinally. | Improved. |
| 28 | " | | 42 | M. | " | " | " | 30 | 5,000,000 | | Gastric | " | No | " | " | " | Tricuspid murmur. | Albumin. | " | " |
| 29 | " | P. | 38 | M. | " | " | " | | 2,800,000 | | Gastric and intestinal | " | " | No. | " | Yes. | No. | No. | " | Recovered. |
| 30 | Warren | | 26 | M. | " | " | " | 65 | 5,200,000 | 2,200 | No | No. | " | " | " | " | " | " | Operation | " |
| 31 | Kelley | W. E. K | 22 | F. | " | No. | " | 60 | 3,800,000 | 6,700 | From genitals. | " | " | " | " | No. | Systolic murmur. | " | Medicinally | Died. |
| 32 | Hare | | 24 | M. | " | " | " | 25 | 1,800,000 | 7,000 | From nose | " | " | " | " | " | No. | " | " | Improved. |
| 33 | Peacock | | 45 | M. | " | Yes. | " | 60 | 4,250,000 | 4,200 | No | " | " | " | " | " | " | Albumin. | Operation | Recovered. |
| 34 | Lichty | T. S. | 32 | F. | " | " | " | 48 | 3,678,000 | 3.230 | From nose, stomach and bowels. | Yes. | Yes. | Yes. | " | Yes. | Pulmonary murmur | Albumin, casts and pus. | Medicinally. | Improved. |
| | Average or summary | | 36 | M., 26<br>F., 8 | Malar., 7<br>Syph., 2 | 17 | 34 | 47 | 3,293,000 | 5,594 | 24 | 16 | 7 | 9 | 3 | 8 | 11 | 3 | ‡ | ‡ |

* No leucocytosis. † Small. ‡ Summary of treatment and results: Treated medicinally 25, recovered 5, improved 12, died 7; treated by operation 8, recovered 5, died 3.

reported and I add one more to the list. The subject has been most thoroughly discussed at recent meetings of the Association of American Physicians. And though the name splenic anemia seems to have found a place in literature, some very good observers, including Musser and Stengle, still claim that the condition does not deserve a separate term and place. Wood in his original paper came to several conclusions, two of which I shall mention: 1, "Clinically, the so-called true and false leukemia are the same, save only in the matter of white blood corpuscles"; 2, "all varieties of leukemia are represented in pseudoleukemia."

Osler has collected a series of 45 cases, excluding 17 of his own, from the members of the Association of American Physicians. Of these 45 cases 12 were of an acute type whose duration was from a few weeks to less than a year, 26 were of a chronic type, many of them having been afflicted for many years. The remaining 7 were not classified as either acute or chronic. Reports of these cases were submitted to him by such men as Dock, Musser, Cabot, Kelly, Herrick, Rotch, Wilson, Stockton and others of like recognition. From the limited report which he gives of these 45 cases (many of them perhaps unpublished) one is led to inquire whether all of them were in reality cases of undoubted splenic anemia. Some of them seem to be lacking the bulk of the physical signs of this condition.

In 1883 Banti described the condition and reported 3 cases. In 1894 he contributed further on the subject. In those papers and others published later especial reference is made to the enlarged spleen, also the enlarged liver and the absence of any glandular enlargement. On account of his evidently very accurate descriptions the malady occasionally has taken the name "Banti's Disease." While such credit may be due to Banti there are quite a few who believe that the term should be applied, or can be applied only to the latest and most marked stages of splenic anemia. We have, therefore, the terms "primary splenomegaly (found most frequently and typically in children and infants), "splenic anemia," and "Banti's Disease," all indicating perhaps different stages of the same condition, namely, a splenic variety of pseudoleukemia. To Osler belongs the credit, without any possible doubt, of having given to the profession the greatest number of most accurately reported cases of this kind. But the most complete description, perhaps, of the nature of the affection was given by Sippy of Chicago in 1899; and the most complete discussion of the literature on the subject, it seems to me, was given in 1901 by Wentworth of Boston. Wentworth, in a general way, discussed the subject "Association of Anemia with Chronic Enlargement of the Spleen," but many of his 88 references are to papers dealing almost exclusively with the subject of splenic anemia.

The symptoms of the disease are mainly anemia with low color index, and very commonly leucopenia; splenic enlargement often to the most marked degree; and a tendency to serious, and sometimes even fatal, hemorrhages. Other signs, as melanoderma, enlarged liver, ascites, swelling of the feet and legs, gastrointestinal symptoms, disturbances of the heart and kidney, irregular temperature and cachexia are also frequently present. The duration of the disease is from a few weeks to 15 years or more. You will notice that the case which I have presented showed about all these physical signs. Of the pathology nothing need be said here, and of the etiology only a word. Banti and others have regarded this as a primary anemia, and until we know of a more definite pathology and etiology of any of the primary anemias they can not be considered otherwise. With reference to splenic anemia, though, the profession seems to be looking toward the liver and portal circulation rather than toward the spleen for some causative factor. Barr thinks that the disease is secondary to vasomotor paresis of the abdominal circulation caused by some lesion in the visceral sympathetic ganglia. This theory has some support, though there are many who think that there are multiple causes rather than a single cause for all of this physical change.

The treatment of the disease has been both medical and surgical, of which neither seems to be very satisfactory. Harris and Herzog have collected reports of 12 recoveries from operations on 17 cases, the operation being, of course, splenectomy. To this number they added two more successfully operated cases. Osler has had four cases operated on with three deaths, hemorrhage having interfered much with the operations. Sippy is of the opinion that surgery alone is the proper treatment of this disease when the case is seen early. But he also says: "In reviewing the literature of splenectomy it is exceedingly difficult in many cases to determine the nature of the disease for which the operation was performed. As a rule, the operator has been more concerned in the technic of his operation than in the nature of the pathologic process for which it was performed." And though many patients pass through the danger of hemorrhage and shock from the operation, this does not prove that splenectomy removes the pathology of the disease in spite of the fact that many seem to improve after the operation. Somewhere I have seen the report of a case that died of gastric hemorrhage two years after a successful splenectomy and supposed cure of the case. Such a report adds strength to Barr's theory that the primary cause is not in the spleen, but in the visceral sympathetic ganglia.

Inasmuch as the case which I have reported has had much albumin, a number of casts and pus at times and as the disease is already of more than three years' duration, with a very much enlarged spleen and liver, with occasional ascites and much anemia, and inasmuch as the case has improved somewhat on a symptomatic treatment I hesitate to advise the risk of operation in her case, though appreciating fully the danger of another hemorrhage such as she had a year ago.

From considerable literature on the subject I have collected and tabulated the following cases, and will add the summary. Cases of primary splenomegaly in infants are not included in this list. All are undoubted cases of splenic anemia or Banti's disease, and with one exception all are adults. From what has been said before one would think it an easy matter to tabulate a hundred or more cases, and I must confess that this list is small, since half of the number has come from the writings of one man alone. But on account of the limited report which many of the authors give of their cases it has been found somewhat difficult to give a very large complete report of cases in the time which has been at my command. However, the following data may be interesting to some. Of the 34 cases collected 26 were males, 8 females and the average age was 30 years. A history of malaria was found in but 7 cases and of syphilis in only 2 cases. Melanoderma was present in 17 cases. Splenic enlargement was well marked and the most prominent feature in all of them. Hemorrhage occurred in 24, hemorrhage from several sources in the same individual not uncommonly. Of these 34 cases 15 had hemorrhage from the stomach, 8 from the nose, 7 from the bowels, 1 from the mouth and gums, 1 from the kidney and 1 from the genitalia. Next to splenic enlargement the anemia was the most striking symptom, being well marked in all of the cases, with a low color index and usually a leucopenia. In only two cases was there an excess of leucocytes. The average percentage of hemoglobin was 47 per cent., average number of red blood corpuscles 3,293,000, and of white corpuscles 5,594. If we exclude the two cases in which there was a leucocytosis, the average number of leucocytes is 4,381. The liver was enlarged in 16 cases, small in one case (Benedict). Ascites was present in 7, swelling of the feet and legs in 9, glandular enlargement in 3, gastrointestinal symptoms in 8, and cardiac murmurs, generally hemic, in 11. In only two cases aside from my own is there any report of albumin in the urine and then "only a trace," while my case has had considerable albumin at times, as well as some pus and casts.

The summary of the treatment and its results is most interesting. Of the 25 cases which were treated medically only 5 are recorded as "recovered," 12 were improved, 1 "not improved," and 7 died, hemorrhage having been the most common cause of death. Operation was performed on 8 cases, of whom 5 recovered and 3 died.

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# SQUINT.*

ALBERT B. HALE, M.D.

CHICAGO.

Squint ought to be made an annually discussed subject at mothers' meetings, for it is through the mother that it must be detected, if this improper functional condition is to be corrected. It is not merely a question of two good eyes, although physiologically we need all our organs in the best of working order; cosmetically, the individual is nearer the type of perfect man if he not only sees with both eyes at once, but if the intended relationship of one visual axis to the other is constantly maintained; if no squint is observable. The young adult feels the effect of a cosmetic imperfection very keenly, and is grievously disappointed to find, when treatment or cure is sought, that the operation does not always lead to even cosmetic improvement, and that in the great majority of cases the squinting eye, if it does not persist in squinting, is, after all, a rather useless organ, on which no trust can be placed.

The correction of a squint, and if possible the restoration of function, must, then, be begun in early childhood. This is a fact not so much known, nor so usually accepted, even in our own profession—not even among all physicians who make a specialty of the eye—and the family counselor is sometimes guilty of saying that the child will outgrow its squint, or that the time to heal it, perhaps to operate on it, is about or after puberty. No greater error can be made. The time to treat a squint is as soon as it is noticed, which is very early in life, and the causes of the squint must be well understood before this advice is taken to heart and any treatment attempted.

Let me emphasize this statement: that many completely blind eyes do not squint—they jog along with their fellows content to obey the impulses from the brain without protest or discontent. On the other hand, most squinting eyes do see something, or did earlier in life, and at the beginning of the trouble they protested vigorously at the impulses from the brain and tried to act by themselves; tried to see something till they fell into bad habits, and long after they gave up trying to see accurately, they continued these bad habits and can not be reformed.

What, then, is squint? Of course, there is a paralytic squint, due to some acquired interruption to the nerve impulse or to injury to the muscle, but these are always characterized by double vision and usually come on later in life, through disease or trauma after the fusion faculty has been established. This may be called an organic lesion. The type to which I refer is, in contrast, called concomitant squint and has its origin in a functional disturbance, and the disturbed function is that of fusion. It arises early in life before the function is well established, and not being such a long-inherited function or instinct—for we know that binocular single vision is possessed by but few of the highest animals—it is easily disturbed. Generally, there is some exciting cause, such as a fever, a shock or fright, in childhood before the sixth year, while this habit is becoming acquired, and when weakened or lost, it is so delicate a function that neglect may often destroy it altogether, while to re-establish it demands attention, training, or the stimulus to spontaneous exercise of the habit, by placing the eyes in such relationship to each other that it is as easy to exercise as it is to neglect this function.

Herein lies the great error on the part of both physician and parent, the assumption that the child will *"grow out" of the habit of squinting. Perhaps he will,* but in the great majority of cases only at the expense of the vision of the squinting eye. Once have it well understood that treatment should begin early, as soon as the defect is seen, and there will be fewer squinters in the world, more sound eyes, and less complaint that the operation so seldom accomplishes what is expected of it.

The diagnosis is easy. Any layman can tell when a child or adult squints. but the etiology in the light of modern study shows that neither nerves nor muscles are primarily at fault. It is the brain, where the fusion function is located, and it is the brain we must first educate before we can hope to control the eyes. Usually —not always—one eye will be found to see less distinctly than the other eye, the difference in degree varying with the individual and the duration of the squint. The result of disturbed fusion sense is imperfect innervation, exaggerated accommodative effort in one eye—squint.

The treatment resolves itself into three factors: (1) Correction of refractive errors; (2) training of fusion sense; (3) operation.

Of these, the first is the essential factor, and without it practically no case of squint can be overcome, or if the eyes do later in life grow straight, it will be at the expense of the vision of one eye.

The second factor is of great importance, and implies such methods as the occlusive bandage, perhaps atropin to the good eye, stereoscopic, amblyoscopic and other visual exercises.

The third factor is operation, which is usually necessary, though squint may be entirely overcome without it. As a rule, however, some operation on a rectus muscle is necessary, and my later preference is for the advancement of a rectus muscle.

103 State Street.

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* Read before the Chicago Medical Society, 1903.

## A CLINICAL NOTE ON OBSCURE CASES OF SEPTIC FEVER.

LOUIS FAUGERES BISHOP, A.M., M.D.
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NEW YORK CITY.

There is a great defect in medical literature, in that men write chiefly concerning those things which have been impressed on their minds as well-defined pictures. The result is that there are whole classes of cases that do not receive that attention which would lead to a comparison of ideas, thus rendering them more clearly understood.

To illustrate: Every year two or three cases come under my observation, which I can best describe as cases of septic fever of obscure origin. In many instances they have proved very puzzling. The temperature, which is the principal symptom, runs an irregular course. The rise in temperature may sometimes be preceded by slight chills, but these are not particularly striking. The patient loses flesh and strength and presents the appearance of being slightly septic.

These are cases involving a great deal of responsibility, because it is so difficult to exclude local disease that should be treated surgically. It is difficult to exclude tuberculosis, and hard to be sure that the patient has not typhoid or malaria.

As a rule, recovery takes place after a long course of irregular temperature, but some have been fatal, one developing malignant endocarditis and several dying of exhaustion. One case developed an acute pleurisy shortly before death. and this was the only lesion found at autopsy. It should be the office of the bacteriologist to discover the nature of the difficulty.

I have no doubt that this brief description will call to the mind of every practitioner many such cases.

The best treatment I have discovered is forced feeding, with the use of a moderate amount of alcohol and tonics. Particular attention should be given to the abundant ingestion of eggs and milk. We have no specific to combat the action of the germs, so we must fortify the inherent power of the blood to defend itself, and this is best accomplished by attention to nutrition.

54 West 55th Street.

## THE RED CROSS SOCIETY OF JAPAN.

N. SENN, M.D.
CHICAGO.

When the writer made the trip around the world in 1901 it was not difficult to foretell that war between Russia and Japan was only a question of a few years. All through Russia and Siberia active preparations were being made for the inevitable conflict. Japan was ready at that time to meet its formidable foe. The strained relations between the two countries continued longer than I had reason to anticipate from what I saw and heard on both sides. The desperate struggle for supremacy in the far East has commenced, and from present indications it threatens to develop into what historians of the future will describe as the great war of the twentieth century.

We physicians are less interested in the political aspects of this war than in the treatment of the sick and wounded on both sides. Russia has always been the staunch friend of the United States, and our nearer neighbor, Japan, which has so recently taken its place among the international powers, has earned our respect and friendship by its progressiveness and dignified conduct in peace and war. It is a source of comfort to know that the present war, regardless of the proportions it may reach or the length of time it will last, will be conducted on the most humane principles, compatible with active warfare. It will be stripped of all barbarities that have until within a few years disgraced the battlefields of the past. Both armies are supplied with the small caliber weapon, and both armies are in care of well-educated and efficient medical officers, and are followed by a sufficient number of well-trained members of the Red Cross Society to care for the sick and wounded.

The Red Cross Society of Russia is the richest in the world, having $8,000,000 in the treasury at the present time; it is well organized, and will do efficient service from the very beginning. The Red Cross Society of Japan has a membership of 800,000, with ample means to extend its work to the seat of conflict, at any rate for a number of months.

The writer has the honor to be a life member of the Red Cross Society of Japan, and as such offered his gratuitous services when war was declared. The daily press, unfortunately, has circulated distorted reports which have caused no end of confusion in the minds of professional men and nurses. I have been for a number of days fairly deluged with letters from doctors, students and nurses from all parts of the country, offering their services. Neither Russia nor Japan need any outside help in the care of their sick and wounded for the present, and it is only in case the war should be prolonged for six months or more that the Red Cross societies of other countries would extend a friendly hand. In such an event Germany will assist its neighbor, Russia, and we in the United States would naturally extend the work of our national Red Cross Society to Japan. Miss Clara Barton, the president of our American Red Cross Society, who is a veteran in this kind of work, is undoubtedly making all necessary preparations at this time to step in at a moment's notice should occasion arise. The profession looks to her to take the necessary steps when the proper time arrives.

The public and the profession have, on the whole, a wrong idea of what Japan can do for the sick and wounded of her army now in deadly combat with the most formidable military power in the world. It is for this reason I am desirous to inform the readers of The Journal of the American Medical Association of the present status of the Red Cross Society of Japan.[1]

The noblest of the many charitable institutions that have sprung up in Japan since this country opened its doors to the outer world is the Japanese Red Cross Society. Since the organization of the Geneva convention by Henri Dumont in 1864, most of the civilized nations of the world have established Red Cross societies for the purpose of minimizing the horrors of war, and to render aid to the victims of great catastrophies. In no other country have these humane efforts met with such unparalleled success as in Japan. This is certainly a startling statement when we remember that modern civilization was introduced into this country less than fifty years ago.

The Red Cross Society of Japan was founded in 1877, during the insurrection in the southwest provinces. It had for its object the relieving of the wounded and sick on the fields of battle, and the taking care of them, for this it adopted the name of Hakuaisha (Society of Benevolence). After the rebellion was crushed the society made itself a permanent organization and decided to make ample preparations for similar emergencies. When the imperial government recognized the articles of the Geneva convention, the society decided to strengthen its bases and to extend its operations, to place itself in connection with the International Committee of the Red Cross at Geneva, and to enter into fraternal relations with similar societies in friendly countries. This resolution, having been adopted at a general meeting, the society, with the approval of the ministers of the imperial household, of war, and of the navy, changed its name to "The Red Cross Society of Japan," and adopted rules and regulations for its government.

The growth of the society has been phenomenal. It has at present 800,000 members, which simply means that nearly every family is represented, estimating the population of the country at 45,000,000. What has achieved this unparalleled success? By what means has Japan outstripped every other country in making provisions for the disasters of war and other great national calamities? These questions are not difficult to solve for anyone who has seen the workings of the Japanese Red Cross Society. The imperial family takes a deep interest in this organization, and contributes liberally to its funds. An imperial prince is its honorary president, and a princess the president of the ladies' committee. The empress is a frequent visitor to the headquarters of the society and to the Red Cross Hospital. This noble example is a potent factor in arousing popular interest in this national institution so dear to every Japanese. Then again, the imperial family has the utmost respect for the leading medical men. Baron Ishiguro and Baron Hashimoto, the most influential medical men of the Japanese medical profession, have been the guiding spirits in promoting the growth and usefulness of the society, and their efforts have been supported by a united loyal profession. The Japanese are easily reached and led by such powerful influences, and have responded promptly and liberally to such noble examples.

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[1] I shall quote freely on this subject from my book, "Around the World via Siberia."

Popular interest is aroused annually by a great public gathering of the members of the society from every part of the island empire, at which lectures are delivered by medical men, illustrated by magic lantern pictures showing the actual practical work of the society. These meetings are usually held in the Uena Park, Tokio, and the attendance is seldom less than 200,000. Baron Ishiguro informed me that the lantern illustrations attracted a great deal of attention and contributed the most in popularizing the society, and as a means of practical instruction in first-aid work. Then, too, it must not be forgotten that the Japanese people are fully imbued with the spirit of progress, and that they are well aware that they have entered a stage of international life that may bring at any time serious emergencies they may be called on to meet; in other words, they believe in making ample preparations for war before the war clouds make their appearance, and it is for this reason that the present war did not come as a surprise.

The headquarters of the society are in Tokio, and consist of a number of buildings for the central office and store rooms. It was through the courtesies of Barons Ishiguro and Hashimoto I was privileged to inspect every department as well as the military schools and hospitals. The central office is a capacious, well-lighted room luxuriously furnished. Here the committee meetings are held. Adjoining this room is one set aside for the imperial family. The elegant furniture and magnificent oil paintings of the emperor and empress impart to this room the aspect of royalty. It was the contents of the storerooms that astonished me, and that gave such vivid evidence that Japan was well prepared for war, the amount of hospital supplies being something enormous. Stacks of uniforms and black dresses and white caps for the female nurses, lanterns, canteens, blankets, bedding, cots, medicines, tents, wagon loads of dressing material, field chests, litters, and trains of ambulances filled the many capacious rooms to their ceilings. Within a day or two the Japanese Red Cross Society can load a hospital ship or railroad train and leave for the seat of war without causing the least anxiety or confusion. The surgeons and nurses are ready at all times to respond to the call, and the arrangements of the hospital stores are so systematic that they can be transported in the shortest possible space of time. The Red Cross surgeons and nurses, male and female, are under military rule and do their work in the hospitals behind the fighting line.

The society owns and operates two hospital ships, the Hakuai-Maru and the Kosai-Maru, admirably constructed for the transportation and care of the sick and wounded.

The Red Cross Hospital in Tokio is the best of the many good hospitals in that city. It is in this hospital that the Red Cross female nurses receive their education and training. It has a capacity of 250 beds, and is attended by a staff composed of the very best physicians and surgeons of the city. The central figure of the staff is Baron Hashimoto, one of the retired surgeons-general of the army. The nurses receive the most practical kind of instruction by lectures and demonstrations given by members of the staff. They are made nurses, and not half doctors, as is the case with many of our training schools. They serve an apprenticeship of three years, and on passing a satisfactory rigorous examination receive the necessary credentials, which entitle them to enter private practice, and in the event of war they enter the field service under military rule. These nurses compare well with the trained nurses of our own country, and it seemed to me that in many ways they are better adapted for service in the field, as their needs are few and their quiet, gentle behavior can not fail in securing for them the respect and confidence of the disabled soldier.

From the above it may be gleaned that the Red Cross society of Japan is well prepared to meet the emergencies of the present war, and that outside help, at least for the present, is not called for, and should such an event arise it will become the duty as well as the pleasure of the Red Cross societies of other countries to bring the needed relief. The experience of the last few days has demonstrated again the innate nobility and unselfishness of our profession. I have received and placed on file nearly 500 applications for medical service in Japan, more than half of them from physicians. These letters prove that the commercial spirit so rampant in many localities has not infected the entire profession. Less than twelve of the applicants referred to financial considerations, most of them offered their gratuitous services, and not a few were willing to defray their own expenses, certainly a record of which we have reason to feel proud.

As this article goes to press I receive the following telegram from Baron Hashimoto in reply to my request for gratuitous service in connection with the Red Cross Society of Japan:

TOKIO, December 15.

*Dr. Senn, Chicago:*

Regrette ne pouvoir accepter votre proposition.

HASHIMOTO.

This message only confirms what I have said concerning the efficiency of the Red Cross Society of Japan, and should, for the present at least, check further applications for medical service in Japan.

## Clinical Report.

### ECTOPIC PREGNANCY

TWICE IN THE SAME PATIENT WITHIN FOURTEEN MONTHS—OTHER CASES.

FLORUS F. LAWRENCE, M.D., D.Sc., LL.D.
Clinical Lecturer, Diseases of Women and Abdominal Surgery, Starling Medical College; Chief of Staff and Surgeon to the Lawrence Hospital.
COLUMBUS, OHIO.

The question of leaving an apparently healthy fallopian tube when the opposite one is the site of an ectopic pregnancy has been and still is debatable. The following case is one more clinical argument to be added to others and to clinically reinforce the logical arguments (based on pathologic findings) in favor of removing both tubes or at least obliterating the apparently healthy tube.

Mrs. O. A. S., a physician's daughter, aged 26. Seen in consultation with Dr. C. S. Carr, May 3, 1902. She is a well-nourished, robust woman, mentally and physically much above the average; has been married 3 years, and never has been pregnant, so far as she is aware. She has never missed menstruation. She has marked neurotic disturbances. Her father found on examination a tender mass to the left of the uterus, which, together with other symptoms, made him suspicious of an ectopic pregnancy. May 3 he called me. On examination I found to the left of the uterus a mass which, on careful investigation, proved to be undoubtedly the enlarged fallopian tube, of the peculiar consistence found only in unruptured ectopic pregnancy. A diagnosis of extra-uterine pregnancy was therefore made and the patient immediately removed to the Lawrence Hospital and prepared for operation. The operation was performed May 4 and a left tubal pregnancy removed (Fig. 1). At the request of the physician and the patient, the right tube, which was apparently healthy, was left.

June 24, 1903, Mrs. O. A. S. called me to see her again. I found her presenting the symptoms of pregnancy, and on examination found all the physical signs of an early pregnancy with the additional unwelcome sign of thickening and some tenderness of the right fallopian tube. I saw her again on July 1, at which time the enlargement of the tube was so marked that I called the attention of her father to it and told him that I very much feared we had another ectopic pregnancy. From this time I saw her every day or two until July 24, when Dr. D. N. Kinsman saw her with me, and agreed in the diagnosis of ectopic pregnancy. She was admitted to the Lawrence Hospital July 25, operated on July 27, and an unruptured right tubal pregnancy removed (Fig. 2) The tube was almost ready to rupture.

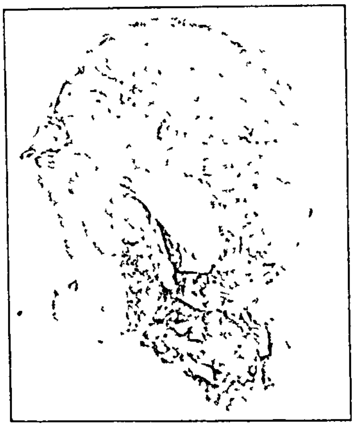


Fig. 1.—Tubal pregnancy.

This is one of three cases coming under my observation in which leaving the apparently healthy tube resulted in like manner. One of these occurred while I was assistant to Lawson Tait. The patient had been successfully operated on by a German surgeon for a right-sided tubal pregnancy two or three years previously. Mr. Tait was called to operate on her for a ruptured left tubal pregnancy in November, 1894, and I assisted in the operation. He said then: "To leave a fallopian tube in a woman who is the victim of extra-uterine pregnancy is to needlessly, if not criminally, endanger her life in the future."

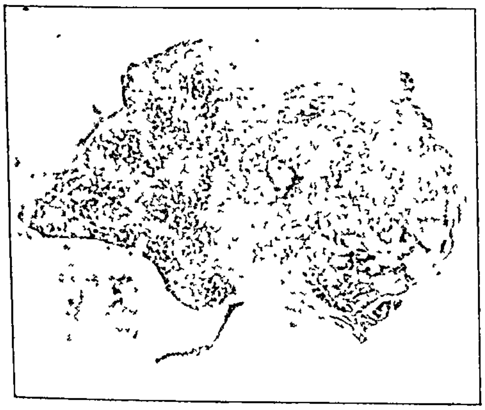


Fig 2—Tubal pregnancy

Another case was Mrs. G. H. E., on whom I operated March 9, 1897, removing a pregnancy of the left fallopian tube June 17, 1901, I was again called. She was moribund, and died very soon. A postmortem showed the abdomen filled with blood from a ruptured ectopic pregnancy of the right fallopian tube.

The present case of Mrs. O. A. S. forcibly emphasizes the danger of such a practice. It should be remembered that ectopic pregnancy never occurs in a normal condition of the uterus and the fallopian tubes; that there is always a preceding tubal disease; that the particular form of tubal disease, viz., desquamative salpingitis, is bilateral; that there is practically always an accompanying localized peritonitis affecting the tubal covering; that the consequent probability of a normal pregnancy is slight; that the danger of an unrecognized or unsuspected tubal gestation can not be estimated; that extra-uterine pregnancy may go to rupture before it is suspected, and that ruptured ectopic pregnancy is very apt to be fatal.

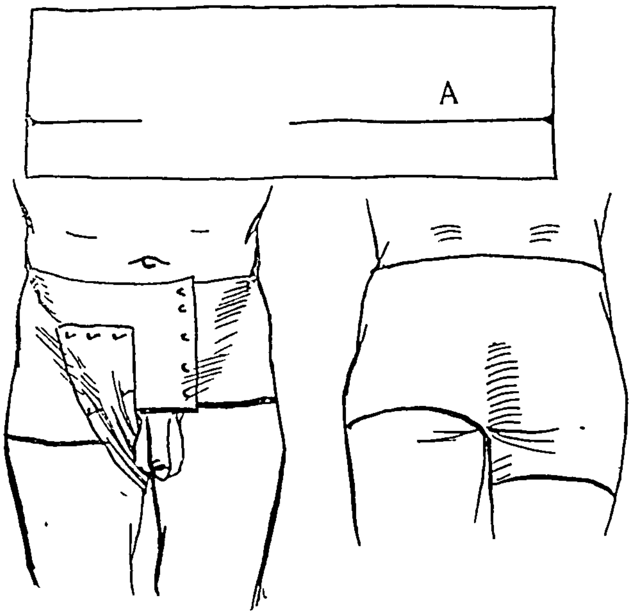
## New Appliance.

### AN INGUINAL BINDER.

ALLEN B. KANAVEL, M.D.
CHICAGO.

Any surgeon who has dressed a suppurating limb or examined an inguinal operation and as a consequence redressed the wound with a spica or some variety of a roller bandage, will appreciate a suggestion which enables one to do this with little trouble, and yet make a dressing that is more comfortable to the patient and more satisfactory to the surgeon.

Take an ordinary abdominal binder, measure off about four inches width at one end and tear the cloth half its length. (See A in the illustration.) Now apply the binder with the untorn end on the side where the wound is to be dressed. The tear in the goods will then extend to the median line posteriorly at the tip of the sacrum. Now tear the other end, taking a corresponding width down to the inguinal region, i. e., the untorn part will extend from the median line posteriorly around the leg of the affected side to the inguinal region. Now the wider part is applied as any abdominal binder. The narrower ends are brought around the leg of the affected side, the short end being pinned to the longer, the end of which in turn is brought up over the wound on to the abdomen and fixed. As the dressing now stands, by removing the three or four pins which fix the tails the wound can be easily uncovered and redressed; moreover, it is very comfortable to the patient, the wound never becomes uncovered, and the dressing simply can not come off.



6027 Prairie Avenue.

**Isolation of Tuberculous Pupils.**—In an address on "Tuberculosis from an Educational Standpoint," before an organization of public school principals in Chicago, Dr. George W. Webster, president of the Illinois State Board of Health, recommended segregation of such public school scholars as should be found to have pulmonary tuberculosis He urged a state sanatorium for the care of tuberculous persons

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## THE TREATMENT OF DIABETES.

Notwithstanding the large amount of research work which has been done on diabetes mellitus and the number of articles which have been written on its physiologic treatment, the disease is still improperly treated by too many physicians. The explanation doubtless lies in the lack of facilities for quantitative examinations of urine, and in the lamentably slow spread of that newer knowledge of the body metabolism, on which the rational treatment of diabetes mellitus is based. In the treatment of diabetes, more than in perhaps any other disease, a little knowledge may be a dangerous thing. At the New Orleans session of the American Medical Association, Osborne, Robinson, Elliott and others[1] made some very emphatic statements along this line. It was said, in effect, that, without doubt, many diabetic patients would be better off, would live longer and would live more comfortably were the existence of the disease never discovered in them; and that the fact can not be denied that the accidental discovery of sugar in the urine of an apparently well man at a life-insurance examination has led in many an instance to the undertaking of a therapy which has done more harm than good.

In the treatment of diabetes, two classes of cases are to be distinguished—the mild and severe. The differentiation is easily made. If the patient be placed on a diet entirely free from carbohydrates for a few days, the sugar will entirely disappear from the urine if the case be a "mild" one, while if it be "severe" some sugar will continue to be excreted in spite of the rigid diet. Should the case be of the "mild" type, the tolerance of the patient for carbohydrate food should next be established. By giving 30 grams of white bread, in addition to the albumin and fat of the rigid diet the first day and increasing the amount of white bread by 20 grams daily until sugar begins to reappear in the urine, the patient's capacity for oxidizing sugar can easily be determined. This having been done, the patient, if placed on a diet somewhat poorer in carbohydrates than that corresponding to the level of his tolerance, may very gradually be given a diet richer and richer in carbohydrates without the reappearance of sugar in the urine, until finally he may be able to resume a normal diet. In other words, judicious dieting of the diabetic patient increases his capacity for the oxidation of sugar, whereas if his diet be neglected and he be permitted to eat what he likes, his capacity for oxidizing sugar diminishes, and a case mild at first and perhaps curable, may quickly be converted into one of the severe type.

Practically all mild cases feel better when the urine is thus kept free from sugar. The hunger grows less, the thirst diminishes, the weariness disappears, and there are fewer nervous symptoms. Occasionally, however, a "mild" case does not do well on this treatment. If the patient begins to emaciate and to feel very tired, the amount of carbohydrate food should be increased, even if the urine does not remain entirely free from sugar, for here the general feeling of well being on the part of the patient is the physician's best guide. Much can be done, too, to add to every patient's comfort by varying the form in which the carbohydrate is given at the different meal times. With the aid of the tables now available, the equivalent of the starch of a given number of grams of white bread in say rice, potatoes, maccaroni, fresh peas or green beans, or in the various forms of "diabetic bread," may easily be ascertained, and the carbohydrate food should, once the tolerance has been established, be varied as much as possible.

In the treatment of cases of the "severe" type, it is not practicable to proceed so schematically as in the treatment of cases of the "mild" type. The "severe" cases, on a diet entirely free from carbohydrates, still excrete sugar in the urine, the body being unable even to oxidize the carbohydrate moiety of the breaking-down molecules of albuminous food. But it would be a grave mistake to keep such patients for a long time on a diet entirely free from carbohydrates with the idea of reducing the sugar in the urine to a minimum. Even the normal body with a diet free from carbohydrates, will begin to build acetone and aceto-acetic acid and later beta-oxybutyric acid, and these substances will appear in the urine. Every diabetic patient placed on the rigid diet soon begins to excrete these bodies in the urine, and if acetone does not appear, the physician may be sure that the rigid diet prescribed has not been adhered to. The rule, then, in severe cases, is t begin with a rigid diet. If the acetonuria which come at first, disappears again, and the patient in general feel better, it may be continued; but if the acetonuria i intense and beta-oxybutyric acid begins to appear in th urine, the rigid diet should not be continued, bu enough carbohydrate given to make these organic acid disappear. There seems no longer to be any doubt tha the graver nervous symptoms of diabetes, including th much-dreaded diabetic coma, are directly related to th presence of organic acids in the blood; it is, therefore much more important in the severe cases to prevent acid-intoxication than to keep the urine free from sugar.

In conclusion, then, it may be said, that in "mild" cases as much carbohydrate as possible should be given as long as the urine remains free from sugar. The patient goes into "carbohydrate-training," as it were, to increase his tolerance by augmenting his sugar-burning power. In the "severe" cases, as much carbohydrate should be given as is necessary for the general well being of the patient and for the prevention of acidosis. The rigid diet entirely free from carbohydrates should, therefore, in such cases be avoided, and the acid-intoxication may also be combated by the administration of 10 grams of bicarbonate of soda in the twenty-four hours.

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[1] The Journal A. M. A., Jan. 2, 1904, pp. 21-23.

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## THE REMOVAL OF GOUTY TOPHI AND URATIC CONCREMENTS.

The caprice of fashion in therapeutics has been, perhaps, nowhere more evident than in the series of methods which, from time to time, have been introduced for the treatment of urate deposits and the so-called "uric-acid diathesis." Nearly every method has been an attempt at rational therapeutics; a particular drug has been employed because, according to the theory in vogue, it increased the solubility of uric acid or its salts. Strangely enough, modern inquiry has shown that in nearly every instance the theory lying at the basis of the "rational" therapy has been false; and the discarded group of remedies occupies a goodly area in the therapeutic rubbish-chamber.

Since Pearson, in 1798, recognized uric acid as a constituent of gouty deposits, efforts have been made to find a suitable solvent for them. The alkalies have, perhaps, had the longest trial. Borax was at first widely employed, but it gave place later to other salts of sodium and salts of potassium; and since Garrod's time the salts of lithium have been especially vaunted. Some have preferred a mixture of different alkaline salts, the uricedin of stroschein, for example. A new era seemed to be opened when it was discovered that certain organic bases increased the solubility of uric acid in water, and it was hoped that by the administration of piperazin, lycetol, or lysidin the woes of the gouty could be speedily ameliorated. These hopes, however, were doomed to disappointment; even china-acid, with its lithium salt, urosin, and its piperazin salt, sidonal, has been added to its obsolete forerunners. The failure of the whole group is easily understood when the defect in the theory is pointed out. While it is true that the bases mentioned above make salts which are more soluble than sodium urate in pure water, yet they can not be so in the blood or in the urine. For as His and Paul, applying the newer conceptions of physical chemistry to the problem, have shown, the solubility of any urate in the blood is diminished by the sodium salts of the blood. Thus the solubility of sodium urate, for example, is decreased by one-half in a sodium chlorid solution containing 0.046 per cent. of salt. Nor does it do any good to bring into the solution along with sodium urate other bases whose uric-acid salts are more soluble than sodium urate; for physical chemistry teaches that on bringing an acid together with several bases the first salt to fall out of solution is that whose "solubility-product" is smallest. It is obvious, therefore, that it is hopeless to effect the solution of uratic deposits through the direct action on them of solutions of lithium and piperazin, and it is further clear that the giving of sodium bicarbonate to dissolve uric-acid calculi must, as far as the direct action of the salt is concerned, make the deposit less rather than more soluble.

The empirical observation that gouty patients are benefited by the long-continued use of alkaline mineral waters must, therefore, be explained on grounds other than those usually assumed; the benefit must be due to some indirect metabolic effect rather than to any direct solvent action on the calculi or tophi. Uric acid in solution undergoes slight electrolytic dissociation into a hydrion and an anion, consisting of the rest of the molecule, urate of soda into the sodium cation and the same anion. It is on this dissociation that the reactions of uric acid and urates, as well as their solubility relations, depend. If now some substance could be found that united with uric acid in such a way that on solution the compound did not form the uric-acid anion on electrolytic dissociation but some other ion, the matter would be entirely different. Such complex uric-acid compounds might have entirely different reactions and solubilities. We are becoming acquainted with such substances. One of them is the thymus-acid of Kossel, and another is formaldhyd, the latter forming a series of compounds with uric acid, of which the best known is diformaldehyd-uric acid. The solubility of diformaldehyd-uric acid is about 1 to 400, an enormous solubility compared with that of uric acid, which is about 1 to 38,000. Acids precipitate uric acid from urate solutions, but not from diformaldehyd-uric acid solutions. It is possible that this substance would be soluble and resistant in the alkaline fluids of the blood and tissues.

One of the most interesting facts yet discovered in this connection concerns the fate of urotropin (hexamethylentetramin) when administered to human beings. In some way or another—just how is not known—it converts a part of the uric acid excreted in the urine into formaldehyd-uric acid. It is, however, as His has pointed out, far from being an ideal drug, for, aside from its irritating effects, even when as much as 6 grams are given per day it is capable of transforming only about one-fifth of the uric-acid output into the more soluble formaldehyd-uric acid. But urotropin therapy seems a step taken in the right direction, and we may hope that through the seething activity of the pharmaceutical chemist, some substance acting similarly but much more powerfully without harm to the organism may yet be discovered.

In the meantime, we have nothing better to offer our gouty patients than a well-regulated regimen—a carefully chosen rather spare diet, the interdiction of all alcohol, copious water-drinking, at least two hours' exercise in the open air daily, and appropriate balneotherapy and mechanotherapy. Where gouty deposits occur about the joints, most can be accomplished by the excitation of local phagocytic activity, and herein doubtless lies largely the efficacy of thermal baths, hot applications and local massage.

## SUICIDE IN CHILDHOOD.

It is contended by some that suicide is a symptom of mental aberration, but while such a view is not in strict accordance with the facts, it will be found that, apart from those unequivocally insane, the suicide is one who has been ill or has suffered loss or disappointment or ill treatment, real or fancied. Statistics show that suicide is increasing in frequency, and the reasons therefor are all too obvious. In the intense struggle for existence, in the eager contest for power, in the mad race for place and position, some must inevitably meet defeat and disappointment, and some must be left behind; and it is from among these that is recruited a large part of the army of those that seek refuge and oblivion in self-destruction. The burden naturally falls most heavily on those that have reached maturity, but children do not entirely escape, and it will perhaps be a matter of surprise to many to learn of the frequency with which suicide occurs among the young. Thus Dr. Ernö Deutsch[1] of Budapest has collected from various Continental sources 200 cases of suicide in children, and he refers to 49 additional cases collected by Siegert and to 50 collected by Ferriani.

The causes that lead up to the commission of the act are divisible into the general, predisposing, and the special, exciting. Lack of religious spirit has been assigned as a predisposing cause, but suicide is scarcely known among non-religious savages. It has been stated that suicide is more common in proportion to the degree of culture of a community, but this is notably not true of England. There is, however, a danger in the burden of excessive school work, so generally imposed on children at the present day, with its competitions and examinations, and its inevitable failures and disappointments. Disturbing political conditions and states of war are of influence only so far as they have an effect on the family. Poverty is a most important factor, the children being overwhelmed by the difficult and often unsuccessful struggle for existence on the part of the parents. Physicians and jurists have been inclined to look on the suicide as an abnormal individual, mentally deficient, and this has been found to be so actually in not a small number of instances. As in adults, the vast majority of suicides in children—up to four-fifths—occur in males. The largest number is observed between the ages of 11 and 15 years, and here, again, there is evidence of the important etiologic influence exerted by school work, suicide in children being most frequent toward the close of the school term.

The exciting causes may be single or multiple. Among the most important of these are punishment and fear of punishment, school matters, psychoses, domestic difficulties and vicious habits. The mode of death depends somewhat on the social position of the parents. Drowning is most common, then hanging, shooting and jumping from windows.

In view of the facts in the case it would seem that the remedy to be applied, in order to diminish the frequency of suicide among adults and children alike, consists in a return to a simpler and less strenuous mode of life, so that mental and physical strain shall be lessened and the measure of individual and communal contentment increased.

## VITAL STATISTICS.

The progress that has been made in collecting mortuary and vital statistics is a matter of congratulation to the medical profession. Sources of error are being eliminated, approved methods are receiving wider adoption, and the facts deduced from these figures are coincidently becoming more valuable and more authoritative. Occasionally there is an obstacle in the march of progress.

Almost every law requiring the reporting of births provides for the payment of a small fee to the reporter. The absence of such a provision in the law of St. John, N. B., has been, in part, the cause of the resistance of that law by the St. John physicians. We have mentioned this matter as news.[1] In protesting against this law, the medical men assert that by reporting births they violate the confidential relationship between them and their patients. They assert that they are made spies and informers, and they "object to being made statistical officers without our knowledge or consent and without remuneration." Of the question of privileged communication, there is an easy disposal, for, under the dominion law, concealment of birth is a criminal offense. It would seem that the physicians had left a very good chance for others to attack their argument on the ground that their strongest objection is that they are *not to be* paid for giving information required, and a lay paper[2] has very pointedly found this opening in their defense. It says: "We are left to infer that if they were paid for giving this information they would be willing to forget the confidential relationship referred to." The paper calls attention to the fact that the physicians of New Brunswick are well protected by law from competition with irregular practitioners, and that it would seem only fair for them to report births as a partial expression of their appreciation of the protection. The point is well taken. The restriction of the right to practice medicine to those who are properly prepared is in the interest of the public; so also is the law requiring the reporting of births. The latter requirement seems to us to be a duty of some one certainly—and to whom could it more fittingly be given than to the one who officiates at the birth of a new protégé of the government?

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[1] Deutsches Archiv für Kinderheilkunde, 38, B, I, II, H., p. 27.

[1] The Journal, Nov. 21, 1903, p. 1280, and Jan. 16, 1904, p. 182.

[2] Fredericton (N. B.) Gleaner, Jan. 4, 1904.

The physician has always been, to some extent, an adviser in things medical of the powers that be, and he has desired even more of such an official capacity. The profession has always emphasized that medical matters should be under its control. There should be remuneration, of course, but that is a minor point. Regardless of the question of pay, it seems a step backward for physicians to object to reporting births.

### THE QUADRUPED CURE FOR APPENDICITIS.

Civilization and the unnatural habits into which men drift are held responsible for many conditions of ill health, and a more natural life would presumably relieve the difficulty. The latest cure for appendicitis, as announced by cable from Berlin, is for the patient to walk on all fours for twenty minutes, four times a day. The theory on which this treatment is based is that "certain muscles around the vermiform appendix are brought into play and strengthened by this quadrupedal cure, which are unused when a biped walks erect; others are relaxed and the localized inflammation has opportunity to subside." Exercise is often beneficial and a change of habit might pacify a grumbling appendix. Before long, therefore, we may see our hospital corridors and solariums full of patients walking on all fours like the majority of other animals. With this encouragement, atavism might cause a reversion to the chimpanzee type.

### POLITICS AND CHARITABLE INSTITUTIONS.

The *Illinois Medical Journal,* in its late issues, has been doing good work in calling attention to the needs of the Illinois state institutions. The greatest of such needs, both in Illinois and in many other states, is to be freed from their present incubus of political control which has ridden them for many years. Previous to 1893, the political element in the management of the Illinois state charitable institutions was of a comparatively mild and innocuous type; while it might be occasionally in evidence to their disadvantage it was not conspicuous, and to the general public these institutions were non-political. Up to about fifteen or sixteen years ago it was the rule to recognize the minority in the appointment of trustees, an arrangement not as ideal as ignoring politics altogether, but one that helped at least to keep partisanship out of these administrations. Of late years, however, matters have been getting progressively worse, partisanship has become the controlling force, and the public confidence and pride in the institutions have been to a large extent dissipated. The condition is all the worse in that it is in striking contrast with that of some of other states where better methods prevail. The Chicago *Tribune* takes up the *Illinois Medical Journal's* suggestions, and advocates the appointment by the legislature of a commission to investigate and report on the best remedy for the present evil conditions. It further remarks that the numerous candidates for governor at the present time have each a "big interrogation craning its neck at them," whether they will or will not further this investigation and expedite the introduction of a civil-service reform. The citizens of Illinois, and, we may add, of other states in which the trail of the spoilsman is over the charitable institutions, owe it to themselves and to the helpless charges of the state to see that a satisfactory answer is given. Civil-service reform may not be the cure-all that some anticipate, but it will be a vast improvement over the "slush fund" system of diverting appropriations made for charity to the uses of political partisans. The medical profession ought to be in the foreground in this reform, the need of which unfortunately is not confined to any one state. It is an encouraging feature of the situation that the political press, aside from party prejudices, as in the case above noted, is ready to take up the subject on the right side.

### ALCOHOL AS A FOOD, AGAIN.

The value of alcohol as a food can be efficiently tested only by extensive observation. Its determination in a purely academic sense is of no practical value or of special interest. It does not follow that, because it may be assimilated and may become a source of energy in the system, that it is a desirable or a useful article of diet. When we get down to hard business facts, such, for example, as the experience of life-insurance companies, we have a better standard by which to judge. In the *British Medical Journal,* January 16, is an abstract of a paper read at the meeting of the British Institute of Actuaries on the comparative mortality of abstainers and non-abstainers, based on the experience of the United Kingdom Temperance and General Provident Institution during the last sixty years. This insurance company takes both classes with the same premiums, but keeps separate records. The mortality experience of each grade separately is ascertained carefully, the former receiving no advantage arising from their superior vitality except in the form of additional bonus. The special feature of the case, as the *British Medical Journal* shows editorially, is that the abstainers show an advantage which is from 25 to 45 per cent. superior to that of the non-abstainers between the years of 25 and 65, that is, in the active and valuable years of life. The comparability of the two sections is thoroughly discussed. The average amount of insurance in each class is about the same. There has been no special selection of lives in the abstainers' class, and there is no question in case of their taking liquor under the prescription of a physician. The pecuniary conditions and methods of living other than as the drinking habits are alike. The members of the two classes are dealt with on absolutely equal terms, and the superiority of the life experience of the abstainers has not been obtained, as shown by careful statistics, by any preferences between the two classes. Our British contemporary, which, so far as we know, is not prejudiced in favor of total abstinence, says that the study of statistics fails to reveal any other cause for the condition than the abstinence from alcoholic drinks, and that, in the light of this experience, abstinence must be considered as an important factor in securing health and long-life. Such facts are far more significant and important in establishing what is the dietetic value of alcohol as commonly used, than is any amount of laboratory experimentation. They, moreover, agree with other experience from a medical and economic point of view. Therefore, total abstinence from alcohol seems to be decidedly the best policy for anyone who wishes to live long and to avoid any unnecessary risk to health and life.

## Medical News.

### ILLINOIS.

**Scarlatina Closes College.**—Concordia College, Springfield, was closed by the faculty, February 13, on account of an outbreak of scarlet fever. The students have returned to their homes.

**Donations to Hospital.**—William B. McKinley and Mrs. Newton M. Harris of Champaign have each given $10,000 to the endowment fund of the Julia F. Burnham Hospital in that city. The hospital's endowment now amounts to $31,721.50.

**Iroquois Memorial Ward.**—Members of St. Francis' guild will commemorate the deaths of associate members in the Iroquois Theater fire in Chicago, by endowing a ward in St. Francis' Hospital, Evanston, for the exclusive use of indigent patients.

**Little Typhoid at Canton.**—Dr. James A. Egan, secretary of the State Board of Health, has received reports from Dr. W. E. Schallenberger, health officer of Canton, that only 4 cases of typhoid fever now exist in that city, and that all infected houses are being thoroughly disinfected.

**Examination for Naval Reserve Surgeons.**—An examination will be held at Rush Medical College, February 27, of candidates for commissions in the medical department of the Illinois National Guard, for assignment to the Naval Reserve. The surgeon-general, Col. N. Senn, will preside, and he has designated as the examining board, Lieutenant-Colonel G. Paull Marquis, Major Charles Adams, and Captain S. C. Stanton.

#### Chicago.

**Increase in Diphtheria.**—The health department reports an increase of nearly 20 per cent. in the number of diphtheria cases reported during the week over the number reported the previous week.

**Personal.**—Dr. Robert B. Preble, president, and Dr. Frank X. Walls, secretary of the Chicago Medical Society, left Chicago, February 11, for a two weeks' vacation in Cuba. In their absence, the affairs of the society will be administered by Drs. William A. Evans and W. S. Harpole.

**Mortality of the Week.**—During the week ended February 13, 661 deaths occurred, 65 more than in the preceding week, and 27 more than for the corresponding week of 1903. The respective annual death rates are 17.68, 15.92, and 17.56 per 1,000. Pneumonia still holds a long lead with 175 deaths, the next on the list being consumption, with 71.

**Comparative Diphtheria Mortality.**—Between Oct. 5, 1895, the date of first case treated, and Dec. 31, 1903, the antitoxin administrators of the health department have treated 7,435 cases of bacterially verified diphtheria, of which number 479 died—a mortality rate of 6.44 per cent. The average mortality without antitoxin still remains at about 35 per cent.

**Pertussis and Measles Not Fatal.**—For the fifth consecutive week, says the bulletin of the health department, there has been no death reported from measles and none from whooping cough in six weeks. There was one death from each disease in January and none thus far this month. During the corresponding period last year there were 32 deaths from measles and 46 from whooping cough.

**Loving Cup Given Dr. Quine.**—At the annual reception given by the senior class of the medical department of the University of Illinois, February 9, in honor of Dean Dr. William E. Quine, which marked his fifty-seventh birthday anniversary, his thirty-fourth anniversary as a medical teacher, and his twenty-first anniversary as a member of the faculty of the College of Physicians and Surgeons, the class presented him with a silver loving cup.

### MARYLAND.

#### Baltimore.

**Personal.**—Dr. Harry C. Johnson, resident physician at Franklin Square Hospital, has resigned and will practice in Lucketts, Va. His resignation promotes Dr. Oscar H. McNemar to be resident physician and Dr. J. C. Hodges to be assistant. ——Dr. J. S. Bowen has returned from Europe.

**The Baltimore Fire.**—The medical schools and hospitals, being out of the line of the fire, escaped destruction, except the Maternity of the College of Physicians and Surgeons on West Lombard Street, which was totally destroyed. All the patients were rescued. The flames threatened the destruction of the College of Physicians and Surgeons and the City Hospital on North Calvert Street, but a sudden change of wind saved them. Before that, however, all the patients had been removed from the City Hospital to the Johns Hopkins, the University and Maryland General hospitals. The Johns Hopkins University and Hospital were heavy losers. The former had just about put its affairs into shape and had prepared the way for removal to its new site in the northern suburbs. It had a great deal of its funds invested in real estate in the burned district, including seven large buildings and warehouses. Of these five were burned to the ground, and it is not known exactly how fully insured the property was, but it will curtail considerably the income of the institution. One of the most serious losses, however, sustained by any institution was that of the Johns Hopkins Hospital. It is estimated that property belonging to it aggregating $1,300,000 was destroyed, and the loss of the annual rental therefrom will curtail the income at least one-third. This loss will continue until the property can be rebuilt and the rents resumed. As the hospital has been living up to the last cent of its income, the blow is a staggering one, and already there is talk of an appeal being made to the outside world for aid. Baltimore can do nothing at present. The office of the *Maryland Medical Journal* escaped, but its printing office was entirely destroyed with the tuberculosis issue (the February number), just in type. The number will be reprinted in Philadelphia, but it will be impossible to reproduce it entire. The office and fixtures of the State Board of Health, on South Street, were destroyed, with the greater part of the valuable library of the secretary, Dr. John S. Fulton, and the annual report of the board, which was in press. The records of the board were saved. The board has taken offices on North Avenue and Charles Street in the northern part of the city. One of the most singular facts connected with the fire was the absence of fatalities, there being but one death reported, that of a fireman from York, Pa., who was crushed under a falling wall. There were many injured, chiefly firemen, none fatally and few seriously. The fact that the fire occurred on Sunday only accounts partially for these results. Had it been a week day the rapidity with which it spread would have cost many lives. Several physicians lost valuable property in the burned district, which extended on either side of Baltimore Street from Liberty east to Jones' Falls, a distance of 11 squares and then southeast to the harbor. All that part of the city east of Light and South of Baltimore to the waters edge was burned. The fire extended beyond those areas here and there.

### MASSACHUSETTS.

**A Thousand a Day.**—In the first twelve days after the appeal for $50,000 was issued by the Springfield Hospital Corporation, more than $12,000 was subscribed.

**Paroled.**—Dr. Eugene Graves of East Boston, convicted of abortion and sentenced as a habitual criminal in 1892, has been released from the state penitentiary on parole.

**Unlawful Practice.**—T. J. Early, who posed as a physician in Lowell, and prescribed, has been tried, found guilty of unlawful practice and fined $200.——Ulric St. Pierre, of New Bedford, charged with practicing medicine without being lawfully authorized, was fined $100 and sentenced to imprisonment for three months.

**A Political Criticism Only.**—Drs. McGirr, physician to the diphtheria hospital, and Sennott, city bacteriologist, both of whom were so severely criticised in the recent city election in Cambridge, Mass., have been reappointed without opposition, although their critics were entirely successful at the polls. The criticism is said to have been for political effect.

**Report on Antitoxin.**—Dr. Samuel W. Abbot of the State Board of Health has summarized the work of the board in the production of diphtheria antitoxin as follows: *During the last four years 159,072 bottles of antitoxin have been produced and distributed free at a cost of $31,543, an average of 19.8 cents per bottle.* At retail prices this quantity would have cost the consumers $437,366. In 1900, when there were the greatest number of cases in the state, the average cost was only 13.6 cents per bottle.

**Departments Condensed.**—The bacteriologic and milk and vinegar departments of the Boston Board of Health, which are under the charge of Dr. Hilbert W. Hill and Dr. Charles Harrington, respectively, are to be brought together under one building. The change is made not to save money, for they do not duplicate each other's work, but for the convenience of the citizens. Forty culture stations report daily to the bacteriologist, while the other department analyzes each day samples of milk, vinegar and other foods.

**Personal.**—Dr. Walter J. Steeper, Westford, has been appointed medical examiner, vice Dr. Benjamin H. Hartwell, Ayer, deceased.——Dr. Marshall Calkins, after 38 years of service, has resigned from the medical staff of the Home for the Friendless, [illegible] Dr. Frederick B. Sweet is his successor.——Dr. [illegible] Lowell, has been made professor of ma[illegible] College of Physicians and Surgeons, Boston. Dr. Edward W. Brown has been elected city physician of Northampton, vice Dr. John S. Hitchcock, retired.

## NEW YORK.

**New Health Officers.**—Dr. Thomas H. Hallet has been made health officer of Clyde.——Dr. John H. Doughty has been appointed health officer of Fishkill.

**Osteopaths Try Again.**—Another effort is to be made by the osteopaths of the state to have a bill passed by the legislature which will legally recognize them. Two years ago a similar effort was made and failed.

**Smallpox.**—The epidemic of smallpox which has existed at Salamanca is now under control and quarantine will be raised. ——The condition of smallpox at Lockport is improving.——A number of new cases have been reported at Buffalo.

**Typhoid at Watertown.**—A typhoid fever epidemic is raging at Watertown. At the outset the disease was of a mild form, but has now assumed a more serious type. There are 400 cases in the city. The local authorities have been unable to trace the source of the disease, and the state health department will make an investigation. The city authorities have leased a large house which will be turned into a hospital. A filtration plant is being installed, but will not be ready before next fall. Filters have been ordered for all the schools.

**Deaths of 1903.**—Commissioner Lewis has made a tabulation of vital statistics for 1903, which shows that the total number of deaths reported for the year was 127,100, which makes a mortality per 1,000 of 16.7. While the total mortality is about 3,000 greater than that of the previous year the estimated increase in population makes the death rate lower. Smallpox caused 41 deaths, all but 16 occurring in and about Rochester. There were 1,250 deaths from pneumonia, and 7,960 from Bright's disease. Grip is estimated to have caused 8,000 deaths.

### Buffalo.

**Odd Fellows' Hospital.**—The new hospital donated by the Buffalo Odd Fellows and Rebekah lodges was dedicated at the State Odd Fellows' Home at Lockport.

**Medical Staff Elected.**—The medical staff of the Sisters of Charity Hospital elected officers as follows: *President*, Dr. James J. Mooney; *vice-president*, Dr. Charles S. Jewett, and *secretary*, Dr. Alfred E. Diehl.

**Personals.**—Drs. John Parmenter, D. W. Harrington and A. E. McCarthy have returned from the south.——Dr. Stephen Y. Howell has returned from Central America.——Dr. Henry D. Ingraham is recovering from an attack of pneumonia.——Dr. E. A. Southall, who was in the medical department of the Army, has returned to Buffalo after five years in the Philippines.

**General Hospital Report.**—President Clement, of the board of trustees of the Buffalo General Hospital has issued the annual report showing that during the past year contributions amounting to $165,242.50 have been received. The hospital has been in existence for 45 years, and has had many eminent men on its staff. Despite the many improvements which have been made the hospital is practically without debts. A new nurses' home is being constructed which will furnish accommodation for 66 nurses in individual rooms, and will have an assembly room, gymnasium, library, reception and lecture rooms.

### New York City.

**Much Pneumonia, Influenza and Measles.**—Since December 19 there have been 2,264 deaths from pneumonia in New York, and there are now more cases of serious influenza and measles reported there than at any time since 1891.

**Problems of Municipal Administration.**—Columbia University, in co-operation with the Academy of Political Science, has arranged for a series of nine free lectures on this subject, to begin February 26, and to be continued weekly. On April 15 former Health Commissioner Ernst Lederle will give an illustrated lecture on "The Health Department," and a week later John W. Brannan will talk on "Bellevue and Allied Hospitals."

**Large Deficits in Hospital Funds.**—A crisis has been reached in this city in the affairs of its great hospitals, and heavy deficits are said to be facing the majority of the big institutions. Some of them, it is declared, must inevitably succumb under their burdens of debt and close their doors. It is estimated that an endowment of $20,000,000 would be necessary to meet the combined deficits of New York's hospitals. This is due to the fact that many of the hospitals have been erected at far too great an expense, and resemble palaces and hotels rather than hospitals. The board of directors of the Eye and Ear Infirmary are considering the advisability and necessity of closing that institution. At the annual meeting of the board of managers of St. Luke's Hospital, held in October, they reported that the expenditures showed an excess over receipts of $32,161. The Lying-in Hospital faces a deficit of $88,477, and the Mount Sinai Hospital a deficit of probably $58,000. In 1902 the Presbyterian Hospital announced a deficit of $80,229. The Hospital for Ruptured and Crippled, $55,675, and the Post-Graduate Hospital in the same year showed an accumulated indebtedness of $44,103. Other hospitals showing deficits are Roosevelt Hospital, $9,208; J. Hood Wright Hospital, $524; Flower Hospital, $8,224; New York Infirmary for Women and Children, $6,678; German Hospital, $9,841, and the Orthopedic Hospital, $5,391.

## PENNSYLVANIA.

**Personal.**—Dr. John A. Morrison, who has practiced in Cochranville for sixty-seven years, celebrated his ninetieth birthday anniversary January 31.

**End of Butler Epidemic.**—The one-hundred and tenth death from typhoid fever at Butler occurred February 2. The State Board of Health has completed its investigations and the quarantine officer has returned to Pittsburg.

**Society Asks Incorporation.**—The application of the Berks County Medical Society for incorporation has been presented to court. The incorporators are Drs. Charles W. Bachman, Abraham S. Raudenbush, and John Y. Hoffman of Reading; Dr. Allison A. Stamm, Mohn's Store, and Dr. George Hetrich, Birdsboro.

### *Philadelphia.*

**Physicians Exonerated.**—Three physicians charged with failure to report cases of contagious disease had a hearing before the board of health, February 4, and were exonerated.

**Dinner and Reception to Physicians.**—Dr. Charles P. Noble gave a reception, February 4, to Drs. Thomas E. Cullen and Guy L. Hunner of Baltimore, at which there was an attendance of about 250. Prior to the reception, Dr. Noble entertained these gentlemen and six other guests at dinner.

**Deaths for the Week.**—Deaths from all causes for the week ended February 13 were 568, a decrease of 55 from the previous week. Of the new cases of contagious diseases there were of diphtheria, 58; scarlet fever, 104; smallpox, 58; typhoid fever, 103, a total of 23 more than for the previous week.

**Eddyite Child Dies.**—Although his wife begged him to call a physician for their infant child, ill with pneumonia, William Lake, an Eddyite, refused. The child died, and the father has been arrested, and two other Eddyites who were *particeps criminis* have been cited to appear before the coroner.

**Hospitals Allowed Bequests.**—In the recent adjudication of the estate of Henry C. Cochran a large sum was allowed as bequests to institutions. Following are some of the beneficiaries: Pennsylvania Hospital, $10,000; Presbyterian Hospital, and the University of Pennsylvania, $5,000 each; Gynecean Hospital, Polyclinic Hospital, Medico-Chirurgical Hospital, Home for Incurables and Sanitarium Association, $1,000 each; Northern Dispensary and Philadelphia Dispensary, $500 each.

**Lectures to Undergraduates.**—Dr. Frederick Holme Wiggin, New York City, at the invitation of the Montgomery Gynecological Society of Jefferson Medical College, delivered an address on "Some Practical Points in Abdominal Surgery, with Special Reference to a Simple Technic for Appendicectomy and Intestinal Anastomosis," before the student body of that institution on the occasion of the annual meeting of the society February 2. Later in the evening he was entertained at a dinner given at the Colonnade Hotel.

**Public Education in Hygiene.**—A campaign of public education on hygiene and especially on contagious diseases is being waged in Philadelphia. Dr. Alexander C. Abbott, president of the board of health, recently lectured in the Central High School to an audience of laymen on "The Prevention of Contagious Diseases." "Tuberculosis, Its Prevention and Cure" was the subject of a recent lecture, under the auspices of the Franklin Institute, by Dr. M. P. Ravenel, Bacteriologist of the State Live Stock Sanitary Board and Assistant Director of the Henry Phipps Institute. The Department of Public Health is to appeal to the legislature and to private charity to aid in conquering the great white plague. The registration of all consumptives is planned, and also the establishment of state camps at various points. The Pennsylvania Society for the Prevention of Tuberculosis will contend for the cleaning of the streets only between midnight and the early morning; the thorough wetting of the streets before cleaning, the heating of trolley cars in cold weather, the discarding of upholstered seats in street cars, and the enforcement of the anti-spitting ordinance. One of the lectures in the international course on tuberculosis, under the auspices of the Henry Phipps Institute, was delivered in Witherspoon Hall, February 15, by Dr. Herman M. Biggs, chief of the Department of Health, New York, on "Administrative Control of Tuberculosis."

**Inspectors Examined and Appointed.**—As a result of civil service examinations recently conducted for the city by Drs. John H. Musser, J. Chalmers Da Costa and Joseph McFarland, the board of civil service examiners for the health bureau, the following, out of some 200 applicants, were appointed as assistant medical inspectors, making the corps fifty in number: Drs. Maurice Ostheimer, Solomon W. Newmayer, Edmund L. Graf, Walter F. Brown, Harold B. Wood, Ignatius L. J. Fitzpatrick, Myer Solis-Cohen, Bernard Kohn, Walter B. Cornell, John Hedges, Joseph P. Ball, D. Cameron Bradley, Alva M. Stafford, W. Edson Apple, George M. Ferguson, Charles E. Ruffell, William P. Hearn, Joseph D. Leman, Charles C. W. Bartine, George J. Enders, Arthur Hartley, Walter W. Maires, Francois L. Hughes, Frederick W. Smith, James M. Hincken, Isaac V. Levi, George M. Coates, Michael O'Hara, Jr., Truman Auge, Sylvester J. Deehan, Morris J. Tyndall, W. Cookman Marshall, Andrew J. Maher, Henry G. Bruner, Louis N. Mutschler, Walter V. Wood, Victor Loeb, Ralph H. Spangler, Henry O. Everett, and Henry H. Doan. The corps was increased by councils from 13 to 50 members. Three of the former, Drs. Taylor, Cairns and Beatty were advanced to the positions, respectively, of chief vaccine physician, chief medical inspector, and assistant chief medical inspector. The salary of 'an assistant inspector is $1,200 a year.

## WISCONSIN.

**New Hospital.**—Dr. Frank H. Turner has constructed and equipped a hospital at Clam Falls, at a cost of about $7,000.

**Milwaukee Hospital.**—Nearly 1,000 patients were treated in the Milwaukee Hospital during 1903. At least one-third of these were indigent patients. The income of the institution exceeded the expenditure by $160.55.

**Not Yet Transferred.**—Information has been received that the notice in THE JOURNAL of February 6, that the headquarters of the State Board of Health had been moved to Madison, was premature. The transfer will not be made until April 1.

**Milwaukee Personals.**—Dr. George Koeppel, Jr., has resigned as house surgeon of Emergency Hospital, and sailed for Europe, February 11.——Dr. Albert G. Jenner, has been appointed medical referee for Wisconsin of the Mutual Life Insurance Company of New York.

## GENERAL.

**The Daily Medical.**—The first issue of the *Daily Medical* is before us. It contains medical news written up in newspaper style, with some pertinent editorials, all making a good representation for the field it was announced to cover.

**Queen's Hospital to Build.**—A brick addition, to cost $45,000, is authorized by the trustees of Queen's Hospital, Honolulu. The annual report shows that in 1903, 783 patients were treated, 44 died (6.14 per cent.), and 673 discharged. More patients were treated free than for pay. The institution received from pay patients $14,798, or $28,000 less than the current expenses. The withdrawal of the government subsidy may require a marked reduction in the amount of charity work.

**Sanitarians to Tour Mexico.**—Drs. George R. Tabor, state health officer of Texas; John H. Purnell of the Mississippi State Board of Health; C. P. Wertenbaker of the United States Public Health and Marine-Hospital Service, New Orleans; W. H. Sanders, state health officer of Alabama; Edward Souchon, president of the Louisiana Board of Health, and Arthur Nolte and W. G. Owen of the same board, and Dr. J. M. McKnight, local state health officer at Laredo, Texas, have been holding a conference in Mexico City with members of the Superior Board of Health of Mexico to devise means for preventing another yellow fever epidemic. They are also visiting Tampico, Linares, Victoria, Monterey, Vera Cruz and other cities along the coast of the Gulf of Mexico. After a thorough inspection of these cities, where yellow fever often originates, the commission hopes to formulate plans for a campaign of education and sanitation.

## CANADA.

**Report of Hotel Dieu Hospital, Montreal.**—During 1903 male patients admitted numbered 1,326; cured, 688; relieved, 504; incurable, 17; died, 117; females, 1,234; cured, 626; relieved, 493; incurable, 20; died, 95.

**Physicians and the New Ontario Assessment Act.**—The profession dislikes the proposal of the Ontario government to abolish the income tax and substitute a "business tax" irrespective of ordinary assessment, at the rate of 50 per cent. on the assessed value of property in which the physician resides. The change is considered too discriminating, and at a mass meeting of the profession at Toronto it was decided to protest. Such a tax, it is said, would make many practitioners pay ten times the amount they now pay in taxes.

**Consumption of Spirits, Wine and Beer in Canada.**—According to the last annual report of the inland revenue department at Ottawa, there were taken for consumption in Canada during the year ending June 30, 1903, 3,208.767 gallons of spirits and 25,755,154 gallons of malt liquor. The former is a slight increase over the previous year, but the latter is a decrease of 1,868,613 gallons. The annual consumption per head of spirits, wine and beer in Canada during 1902 was: Spirit gallons, .796; wine gallons, .090; beer gallons, 5.102; and in 1903, .870, .096 and 4.712. This shows a slight increase in the consumption of wine and spirits and a decrease in the consumption of beer.

## FOREIGN.

**The Sixth International Congress of Zoology.**—This will be held at Berne, Switzerland, Aug. 14-19, 1904.

**Eddyite Spreads Smallpox.**—Nine cases of smallpox were discovered in Edinburgh, the result of an Eddyite's going about among people while sick with the disease.

**New Journal for Anatomy and Microtechnic.**—Prof. R. Krause and Dr. M. Mosse of Berlin announce the foundation of a new *Centralblatt f. normale und pathologische Anatomie mit Einschluss der Mikrotechnik.*

**Russian Congresses of Surgery and Gynecology.**—The fourth annual congress of Russian surgeons was held at St. Petersburg, December 28. About 200 surgeons were in attendance. The next congress will be held at Moscow in December. The congress of gynecology was held at the same date.

**Epidemic of Ergotism.**—The Siberian district of Tomsk is suffering from an epidemic of ergot poisoning. The rainy weather of the last harvest season favored the growth of ergot in the grain, and in tests of 92 samples of flour only 10 were found free from appreciable amounts of ergot. Already 123 cases and 14 deaths have been reported.

**Prize for Work on Fatigue in Military Service.**—The Italian government offers a prize of $200 for the best article on the subject of "Fatigue in Military Life; the resistance of the organism and its factors; over-exertion and its consequences; the weight carried by the Italian soldier and measures to render it lighter and distribute it better without abandoning any essentials."

**Foreign Students at German Universities.**—The number of matriculated foreign students at the German universities is larger this year than ever before, amounting to 3,093, of whom 722 are in the medical schools. The proportion by nationalities of the medical students is not given in the report, but 310 Americans are included in the total number, and 133 from Asia, mostly Japanese.

**Meeting of Inner Council of International Antituberculosis League.**—The inner council has been summoned to meet at Copenhagen, May 27 and 28, to prepare for the international antituberculosis congress to be held at Paris in September, 1905. Among the subjects to be discussed are the reports of committees on the question of languages (Maragliano, chairman); antispitting ordinances (Hillièr); compulsory notification

(Fränkel); disposition (Schrötter), and education (Heron). The appointment of corresponding members will also be discussed, and the aims and scope of the international "Centralbureau" be more accurately defined.

**Director of Laboratory Dies from Plague.**—The laboratory for plague research at St. Petersburg is located on an isolated island near Fort Alexander. The director of the Institute for Experimental Medicine and the Production of Antiplague Serum was engaged at the laboratory with living plague cultures when he contracted the plague, January 26, and died in four days, notwithstanding repeated injections of antiplague serum. All the other persons connected with the laboratory were given preventive injections, but two new cases have developed. The entire establishment is strictly quarantined. The death of the director recalls those of Dr. Müller at Vienna and Dr. Sachs at Berlin, under similar circumstances.

**Inadequate Quarters for Science at Paris.**—Our Paris exchanges state that the new professorship which has been conferred on Curie has no laboratory connected with the chair, and the scientist and his wife had no place in which to continue their researches on radium. The Pasteur Institute has come to the rescue and Professor and Mme. Curie are now comfortably installed in a laboratory there. Prof. A. Robin has also recently been transferred from the Pitié to the Beaujon hospital. The latter has only one amphitheater, already occupied by Debove. Robin's lectures are, therefore, delivered in the sacristy to the little chapel, where his auditors find only two or three dozen chairs to seat the hundred or more present.

**International Institute of Bibliography.**—This unique institution was founded by Marcel Baudouin at Paris a few years ago. It is a collection of books, articles, bibliographies, illustrations, etc., kept on the plan of a card catalogue, and the collection on any subject or branch of a subject is loaned on demand to applicants. Abstracts or translations are furnished and all commissions to facilitate scientific research are executed by experts connected with the institute. The cards are loaned to any part of the world and the scientist remote from the centers of learning is thus able to have at his command what has been published on any subject in which he may be interested. The institute is to have an exhibit at St. Louis, and a branch office has just been opened at Madrid. The *Gazette Méd. de Paris* is the official organ of the institute, and the *Bibliographia Medica*, a successor to the *Index Medicus*, was published by Baudouin during 1900-1902.

**International Station on Mount Rosa for Physiologic Research.**—The international station in Switzerland, at an altitude of nearly 17,000 feet, was first visited by the Italians, Professors Mosso and Galeotti, C. Foa, A. Aggazzatti and G. Marro, with Professor Atwater from Middletown in this country. During a two weeks stay in 1902 various lines of physiologic research were industriously prosecuted. Last year Professor Zuntz of Berlin and Durig of Vienna with Mosso of Turin spent thirty days at the station. The report of the various tests and experiments is soon to be published with the title, "*Annali del laboratorio internazionale di fisiologia sul Monte Rosa.*" The station was a gift to science from the dowager queen of Italy, in 1901. Mosso regards as the most important result of the researches to date his observations on what he calls "acapnia," that is, the lessened proportion of carbonic acid in the blood at high altitudes.

**Prevention of Lay Publicity for Scientific Articles.**—Dr. H. Keller writes to the *Wiener klinische Rundschau* deprecating the publicity given in the lay press to Behring's new views. Such communications should be made before scientific bodies and the discussion kept from publicity until the matter has been fully weighed and the revolutionary statements made either established as truths or refuted. Behring's statements have been widely heralded all over Germany and the public informed that he regards the boiling of milk as distinctly injurious to infants. The impression made by his words on the public tends to throw discredit on the profession which has so persistently been advocating the boiling of milk. Keller merely cites this Behring episode as a typical example of what he thinks the profession should avoid. He urges that physicians should combine to avoid publicity for purely theoretical propositions, and prevent their publication in the political press. The editions of medical papers and articles should be copyrighted and each bear a notice to the effect that legal proceedings will be instituted against any one reproducing the articles without permission. He thinks this would effectually prevent the premature promulgation of views which conflict with all that has been learned by experience to date.

**The Sewage Farms at Paris and Their Influence on Health.**—The report for 1903 of the committee appointed by the Paris authorities to investigate this subject has just been published. The conclusions are to the effect that this method of purification of the sewage water by using it to fertilize the soil is surprisingly effectual. The water draining away from the sewage farms provides the drinking water for the communities nearby, and the vegetables grown are likewise consumed there in large amounts. Gennevilliers has about 2,400 acres of these sewage fields, with 138 acres cultivated as vegetable farms. With a population of 10,056 there were 202 deaths in 1902, not one of which was due to typhoid fever, diphtheria or intermittent fevers, and in the 18 deaths due to dysentery, 15 were of young infants and the others in children. The same is true of a town beyond, whose 2,243 inhabitants likewise drink the water draining away from the farms. Not a single case of infectious disease has occurred in either place which can possibly be ascribed to the use of the filtered sewage water. Paris has now 5,505 hectares, or about 13,700 acres of these sewage fields, and each acre receives about 180,000 cubic feet of water during the year. The sewage is first collected in large basins and the solid matters are filtered out and carried away by wagon or boatload, the water passing on to the sewage farms. Every year adds to the number of acres devoted to the purpose.

**United Action of the Profession in Germany.**—The troubles with the semi-official sickness insurance societies have solidified the profession in Germany to a remarkable extent since the introduction of the new law doubling the length of treatment of the policy holders. In Berlin a general meeting was held recently, with Prof. von Bergmann in the chair, which was attended by 1,500 physicians. It was summoned to protest against a certain measure required by the insurance societies. The protest was heeded by the societies and the obnoxious clause dropped. In Cologne all the medical officers of the principal society resigned, and the society was able to find only 30 physicians from outside willing to enter its service under the conditions prevailing. The government interfered and notified the local authorities that this number was inadequate for the 110,000 policy holders, and that at least 30 more fully qualified for the post must be engaged within three days. The local authorities, therefore, ordered the society to reinstate its former medical officers, conceding all their demands, "free choice," arbitration committee and the fee of 5 marks per capita and 15 marks per family, with agreement to the contract for a five-year term. The outside physicians were discharged with some compensation. Our exchanges hail this settlement of the trouble at Cologne as a great victory, rendered possible only by the united stand taken by the profession. In the ads published in the medical press warning against acceptance by outsiders of the posts left vacant by the resignations of the medical officers of the various "Kassen," it is stated that any one accepting such a post would be debarred thereafter from intercourse as a colleague with other members of the profession. In a very few places outsiders have come in and thus "stabbed the local physicians in the back" as our exchanges express it, but they are referred to as the "sweepings" of the medical profession. The resigning physicians are given financial aid by the *Leipziger Verband*, which now numbers many thousand members. Its aim is solely to promote the material welfare of members of the profession. There is a rumor to the effect that a reserve fund of $500,000 is being raised.

## DUBLIN LETTER.

### Midwives and Rotunda Hospital Nurses.

There is perhaps no hospital in the world whose name is so well known in every corner of Europe and America as the Rotunda Hospital, Dublin. Founded in the first half of the eighteenth century, it is the oldest lying-in hospital in the British islands, and is still by far the largest. It is very likely not so well equipped as many midwifery hospitals in America, and perhaps on the continent of Europe, but, so far as the home countries are concerned, it is admittedly in importance the premier hospital of its kind. In the face of all this it is hard to believe that nurses trained in the Rotunda and the other lying-in hospitals in Dublin are absolutely excluded from all practice in England by the new midwives' act. For many years medical men and others interested in health matters strongly urged the necessity of placing midwifery practice under proper regulation and control, as there was no check whatever on practice by very ignorant persons, and there was no register of midwives. As a result of this agitation in 1902 a bill was carried through parliament to provide for the proper control of midwifery practice. In this connection I may be pardoned for repeating an anecdote of Lord Salisbury's latest weeks in the house of lords. His habit of sleeping through all but the most important debates in the house was notorious, and he was known to nod even while the leader of the liberal party in the peers was on his feet. Shortly after his retirement he explained to a friend that he had latterly found the house intolerable, for whenever he wakened from a doze, he seemed to hear the Lord Chancelor talking about midwives. To return, however. The execution of the act was to be in the hands of a body known as the Central Midwives' Board, who, with the approval of the privy council, were to make regulations regarding the registration and discipline of midwives. This body, with all the importance of jack-in-office, immediately busied themselves in drawing up a code of rules of more than doubtful utility. Some of them certainly were excellent, but many of them were silly or unscientific, and have come in for much adverse criticism. It was not, however, until they came to draw up regulations guarding admission to the register that Irish nurses were particularly affected. There is to be a state examination passed before a midwife is permitted to practice, and candidates for such examination must show certain certificates. Among these are certificates stating that the nurse has personally conducted twenty cases of labor, and has attended for ten days after confinement in each case. Now a Rotunda nurse could truthfully claim that she had watched three or four hundred conductions, assisted at twenty or thirty, and personally conducted three or four; that she had watched six or eight hundred women during their puerperium, and personally nursed twenty or thirty, but she could not make the statements demanded by the board, for the usual period of detention of patients in lying-in hospitals in Dublin is eight days, and they would refuse to stay longer, nor would it be in their interests to do so. And with regard to allocating twenty conductions to each nurse, it would require, to quote Dr. Kidd, not merely doubling the size of our hospitals, but doubling our birth rate. Under the present conditions, while the "handy woman" of the English village is eligible to present herself for registration, the best-trained midwives in the kingdom are absolutely excluded. It is true that Irish obstetricians are themselves somewhat to blame, for, with the single exception of Dr. W. Smyly, not one of them raised his voice in protest until the objectionable rules were in force. The laxity of the Rotunda authorities in the matter is particularly blameworthy. At the opening meeting of the obstetrical section of the Royal Academy of Medicine in Ireland a few weeks ago the president brought the subject before the section, and very strong resolutions were passed demanding the repeal of the offending clauses.

### The Educational Situation in Ireland.

Before this letter is in print it will be known whether the government has any intention of introducing in the present session of parliament, a university bill for Ireland. That the existing position of affairs in regard to higher education in this country can not be much longer tolerated is obvious, for, whether the grounds of discontent are really sufficient or not, there is no doubt of the discontent being there, and outside Trinity College there is at the present moment no stable educational institution. A short history of university education in Ireland is necessary to make clear how we stand. Three hundred years ago a college was founded in Dublin, by name Trinity College, "to be the mother of a university." From that day to this, no other college has been established in Dublin University, and Dublin University and Trinity College are to all intents and purposes the same institution. For some two hundred years after its establishment, Roman Catholics were excluded from obtaining degrees in the university, but toward the end of the eighteenth century this disability was abolished, all posts of honor and emolument, however, being still preserved to members of the Established Church. It was not till 1873 that the last relic of official sectarianism was done away with by Fawcett's Act, and every prize and post from sizarship to provostship was thrown free to all comers, without any religious test. At the same time, however, no attempt was made to interfere with the conduct of the Church of Ireland Chapel, which still stands within the walls, nor was the Divinity School of the Church of Ireland disturbed. It was hoped that all religious tests having disappeared, Irishmen of every class would make full use of the university privileges thrown open to them, but this hope has been gravely disappointed. The number of Roman Catholic students entering the college has scarcely shown any increase, and of late years even tends to diminish. Three-fourths of the people of Ireland, but only one-tenth of the students of Trinity College, are Roman Catholics. Previous to Fawcett's Act, indeed, attempts had been made to provide university education for those who preferred not to make use of Trinity. In 1849 the Queen's University was set up by Sir Robert Peel, with three constituent colleges placed respectively in Cork, Belfast and Galway; the colleges were entirely undenominational, and provided no religious training. The Roman Catholic bishops at first favored the scheme, but soon came to regard it more coldly, and finally for some occult reason condemned the colleges, root and branch, as "godless." Nevertheless, in spite of many obstacles the Queen's University existed for some thirty years, doing very good work among those whose consciences permitted them to make use of it. In 1879, however, it was abolished, and the "Royal University" was established in its stead. This is a mere examining board, sitting in Dublin, and examining any candidate who presents himself. It matters not where he has been trained; he has, if he shows sufficient knowledge, a right to a university degree. The queen's colleges, which still exist, although the Queen's University was abolished, prepare many students for the Royal University, but many others are trained in various voluntary institutions. It is hardly to be wondered at that after twenty-five years' experience of this body, it has been shown to be an entire failure, as far as any true education is concerned, and this is the official judgment of a royal commission which has recently inquired into the matter. The position at present then is this—Trinity College or Dublin University, while open to every one, is refused by the bulk of the Roman Catholics of Ireland; the Royal University, an examining board, has been found useless; the Queen's Colleges, like Trinity College, are not made use of by Roman Catholics. Whether the position of the Roman Catholics in declining to avail themselves of Trinity College and the queen's colleges be logically justifiable or not, there is no question as regards practical politics that something must be done to satisfy their claim, and the only question is, what form should the solution of the difficulty take? I hope in a future letter to tell something of the schemes which are most prominently before the public at present.

## LONDON LETTER.

### The Disposal of Wounded Cavalry.

The need for some special form of light ambulance for mounted troops has for some time been recognized. In the *Journal of the United Service Institution* of India Lieut.-Col. Hathaway, medical officer with the cavalry divisional staff in the South African War, has published an important paper on the subject. Assuming that cavalry can not be allowed to look after their wounded, he suggests a scheme of mobile cart detachments. The detachment of each cart is to consist of five men, well instructed in first aid to the wounded. During peace a single cart and detachment should form the ambulance establishment of a regiment of cavalry; in war one cart would be required for every squadron. The cart should provide accommodation for as many wounded as possible, be light and yet strong, and able when empty to cross any country over which artillery can proceed. The cart considered by Colonel Hathaway most generally serviceable consists of a platform on strong springs over four wheels; the sides are padded and moveable so as to form back rests when the cart is used for sitting-up cases. The patients then sit on benches on each side of the cart, the stretchers being rolled up and placed under the seats. By an arrangement of hinged crossbars, which form a second or upper tier, the cart can be made to accommodate four patients lying down. There is also room for two patients who can sit up, in front. Thus in all six patients can be accommodated, and when the lower stretcher rests are used as seats, 10 patients. A double awning-cover supported on uprights from the center of the platform, allows stretchers to be loaded from each side without any obstruction from the sides. Thus any case can be attended to without removing the patient, a great advantage. The cart weighs less than nine hundredweight and appears to combine economy of space with comfort. Colonel Hathaway claims that, at little or no extra expense, these cars render mounted corps much more mobile in that they are relieved of attention to their wounded, who are removed rapidly by an organized body of men able on the march to maintain the pace set by the mounted unit. For men wounded on patrols where wheeled transport, however mobile, is impossible, he has invented a contrivance called a "saddle crutch" consisting of a semicircle of light metal padded inside and covered with leather which is used to support a wounded man after he is placed in his saddle.

### The Contamination of Shellfish by Sewage.

The Royal Commission on Sewage Disposal has issued another interim report containing a most important statement. During the various "oyster scares" it has been assumed that the presence of the *Bacillus coli* in the oyster is proof of sewage contamination. The commission have discredited this test. They ordered Dr. Houston to examine a large number of oysters from the purest beds, waters and from beds liable to pollution, in order to ascertain the distribution of the *Bacillus coli* in nature. Over 1,000 oysters were examined, with the result that the organism was found in nearly all, but as a rule much fewer bacilli were found in oysters taken from pure than from polluted water. The commission hopes that eventually it may be possible to establish a quantitative test. The importance of this pronouncement is obvious. The chief sanitary inspector of the City of London recently obtained an order for the destruction of oysters because they contained the *Bacillus coli*. The layings from which they came were consequently withdrawn from the market. But during the hearing of the case it was shown that great pains had been taken to keep the oysters free from pollution.

## Correspondence.

### The Anglo-American Medical Association.

Berlin, Feb. 3, 1904.

*To the Editor:*—The Anglo-American Medical Association of Berlin desires you to inform the profession of its organization and purposes. Realizing the difficulties which beset the path of the stranger the association places its services at the disposal of physicians who intend to study in Berlin. Such are cordially invited to attend the meetings which are held weekly, and any information concerning the work to be had here will be gladly given to any member of the profession who will communicate, on his arrival in Berlin, with Dr. J. H. Honan, president, Lützen Strasse 78, or with the undersigned committee.

Albert J. Mayer, M.D., Secretary.
David Shannon, M.B.
Wm. W. Graves, M.D.

Albrecht Strasse 22.

Note.—Further particulars of this association were given in The Journal Jan. 30, 1904, p. 320.—Ed.

### Susceptibility to Disease.

Goddard, Kans., Jan. 14, 1904.

*To the Editor:*—I desire to call the attention of the profession to an important factor in the estimation of susceptibility to disease as influenced by age, namely, the decrease in the number of persons living as age increases. I have not been able to learn by a search of such literature as is available to me, and by a correspondence with several men of wide knowledge that this fact has ever been considered in the construction of tables intended to illustrate the varying susceptibility to a given disease at different ages.

The tables or reports, as constructed, doubtless illustrate truly the prevalence of the disease at different ages, but fail signally in showing the varying susceptibility. Thus, a compilation before me shows that out of 434 cases of pneumonia, 42 occurred between the ages of 10 and 20, and 24 occurred in persons from 60 to 70 years of age. This statement alone indicates a greater liability to the disease at the earlier age than at the later. Let us apply to the statement the American table of mortality and observe the result. This table begins with 10 years of age, and assumes the death of all persons at 96; and is on the whole probably the nearest approach to actual experience in the United States that has been as yet compiled. Out of 100,000 persons at age ten, 99,251 are living at eleven, 98,505 at twelve, and 92,637 at twenty. At the age sixty-one, 56,371 and at age of seventy, 38,569 are living. Assuming that the compiler of the cases of pneumonia meant by the phrase "between 10 and 20 years" from 11 to 20, inclusive, we find the average number living in that decade, out of the original 100,000, to be 95,928, while for the decade 61 to 70, inclusive, there are living an average of 47,996; barely half as many. The ratio of liability, therefore, instead of being 42 to 24, is, if we take the number living in the first period as the basis of comparison, 42 to 24, multiplied by a fraction of which 95,928 is the numerator, and 47,996 the denominator; that is, 42 to 48—a marked difference.

In the computation of relative mortality, the difference is still more striking. Thus, Osler, in considering the etiology of pneumonia, quotes under the head of age from the census of 1890, that for every 100,000 of population there were between the ages of 15 and 45 years, 100.05 deaths; between 45 and 65, 263.12, and for 65 years and over, 733.77. Reducing this to a percentage, we have for the first period 9.1 per cent.; for the second, 24 per cent., and for the third period, 66.9 per cent.

Assuming that the author meant 15 to 44, inclusive, and 45 to 64, inclusive, for the first and second periods, we find the average number living in those periods to be, of the 100,000 living at 10 years of age, 85,751 and 64,242, respectively, while the average for the period of 65 to 95, inclusive, or the end of the table is 18,458. Assuming the average number living during the first period as the basis of comparison, we find the relative mortality to be, not 100.05 to 263.12, but 100.05 to 263.12 multiplied by a fraction, of which 85,751 is the numerator and 64,242 is the denominator; that is, 100.05 to 351.22. And a like calculation for the third period would show a relative mortality of the enormous number of 3,409. Reducing these numbers to percentages, we find for the first period a relative mortality of 2.6 per cent.; for the second, 9.1 per cent., and for the third, 88.3 per cent. While a comparison of deaths alone for the first and third periods shows a ratio of 1: 7.32, a consideration of the numbers of people living in the respective periods points to a real mortality ratio of 1 to 34.

It is hardly to be expected that many diseases will show such a striking difference in mortality at various ages as pneumonia; but only a careful investigation will determine, and the subject is worthy of such investigation.

In this study, other factors ought to be considered as immunity from a disease at a later age by reason of an attack at an earlier age. Thus, measles in this country is almost exclusively a disease of childhood, because of the well-nigh universal exposure at that time of life, and the consequent immunity, with rare exceptions, for the remainder of life. That it may attack individuals at all ages we know; and the universal predisposition to the disease at all ages, when not protected by an attack early in life, is well illustrated by the epidemic which raged a few years ago on the introduction of the disease into the Fiji Islands.

It will not be easy to eliminate this disturbing factor, though attention being directed to it in this connection, a long course of careful observation will do much toward that end. It will be easier to eliminate the effect of those diseases which, as pneumonia, leaves the patient, after a short immunity, with impaired powers of resistance to further infection. All that we have to do in that case is to exclude attacks subsequent to the first. The instances of second and later attacks of those diseases, one attack of which almost universally grants a life immunity, are so rare as to be perhaps negligible.

Notwithstanding the difficulty and perhaps the impossibility of getting ideal results, by reason of the obstacles alluded to, the investigation ought to be made in the interest of greater accuracy; and I venture to suggest a way of making it. Let a large number of the best hospitals in all portions of the United States be requested to send transcripts of their records bearing on this subject to some central office for compilation and calculation. Only in this way, it would appear, can a sufficient number of cases at all ages be had to give fairly accurate results.

This calculation ought to be made for each year of life. While I have never seen a table of infant mortality, the fact that a number of life-insurance companies take risks on children, points to the existence of such a table; and the short time involved, from birth to the tenth or the fifteenth year, ought to give assurance that the compilers have attained to at least as great a degree of accuracy as is found in the tables for older ages.

A combination of the tables of mortality of infancy and childhood could then be made with the American or some other standard table, as the combined experience, and the calculation for all ages, from birth to 96 if the American be used, or 100 if the combined experience be selected, can be made. By such a combination we should be enabled to use the initial number at birth as a basis or unit of comparison for all ages, just as in the standard tables we can use the initial number 100,000 at age 10 as a basis of comparison for all subsequent ages.

It is in the hope that some one with the authority of a great medical organization behind him and to whom vast numbers of histories are, or may be made acceptable, may take up this work, that I have ventured to make the above suggestions.

W. H. Graves, M.D.

# Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

## CONGLUTINATION OF THE EXTERNAL OS AFTER AMPUTATION OF THE CERVIX.

San Francisco, Feb. 1, 1904.

*To the Editor:*—The effect of amputation of the cervix on labor has, as far as I can ascertain, received but scant recognition; in fact, one of our most distinguished gynecologists dismisses the subject by saying: "Amputation of the cervix does not interfere with conception, pregnancy or labor." That with a preceding atresia conception could not take place needs no discussion, but that atresia can take place after conception, and interfere greatly with labor, the following case will illustrate. In May, 1903, it became absolutely necessary to amputate the cervix of a bipara, aged 26. She stated that menstruation had ceased a week previously. I did not curette the uterine cavity, being sceptical as to her veracity. Subsequent events proved my doubt to have been well founded. Three months after the operation, there being no recurrence at menstruation, she came for advice, and an examination showed a pregnancy of about four months, which continued without deviation, following the usual course. January 14 I was sent for, found patient in labor, the presenting part having entered the superior strait, covered by the upper vaginal wall, like a cap, but neither by the eye, through a speculum nor by the sense of touch, could the slightest opening be detected. The pains suddenly ceased for a week, then began with renewed vigor, keeping up for two days, the position of the fetus remaining exactly the same, with not the slightest sign of dilation. Further delay being dangerous, I called Dr. Frank Gray in consultation; we concluded that if an entrance could not be effected through the vagina, cesarean section and a possible Porro operation were strongly indicated. I admit the latter did not appeal to me, both on account of the danger from shock and the age of the patient. She was removed to Lane Hospital, and after twenty minutes' probing with the finger, I felt a sunken spot, bored through and entered the cavity through the internal os, which was dilated to the size of a dollar. I continued manual dilation and found a breech, that had just about entered the pelvic cavity, applied forceps and extracted babe in a condition of asphyxia livida. Twenty minutes of artificial respiration insufflation, etc., restored the child. The patient made an uninterrupted recovery, the temperature never reaching above 99.8. At present both mother and child are doing well. Had the patient menstruated within the usual time after the cervical operation the probabilities are that no atresia of the canal would have taken place, as no such result followed a number of previous similar operations. Now the question arises, will the os remain patent? I can not evolve a satisfactory answer, for possibly the next six months, but in the meantime will keep the patient under observation, using the probe from time to time.

William Himmelsbach, M.D.

Answer.—Occlusion of the external os is a well-recognized although somewhat rare cause of dystocia. It may occur in primiparæ who have never undergone local treatment when it is generally due to persistence of a "pinhole" os. In multiparæ or in primiparæ who have had treatment, it is generally due to traumatic adhesions that may follow injuries of labor or caustic applications or operations like amputations of the cervix. Cases of occlusion of the external os due to amputation have been reported, but not frequently, and the above case is worth recording. In the diagnosis of this condition the possibility of the displacement of the cervix to one side, backward or even above the promontory, must be kept in mind. When the diagnosis is made, the minute opening which marks the external os or the depression which marks where it should be, is carefully sought for by the examining finger, and if found, an opening made by the simple maneuver adopted by our correspondent. When the site of the external orifice can not be determined by palpation the patient should be put in a good light, under anesthesia if necessary, and the walls of the vagina well retracted to allow a thorough inspection of its fornix. In this way the orifice or the location where it should be may generally be found and dilatation begun by stretching or cutting. In these rare cases in which the original location of the os can not be determined it may be necessary to make a crucial incision that may need extension to admit the immediate delivery if the case is urgent. We are not aware that agglutination has occurred repeatedly in the same patient, but it would certainly be desirable to keep such a patient under observation, both before and after the occurrence of a subsequent pregnancy. Incidentally we suggest that the practice of applying forceps to the breech is not to be commended. Pushing up the breech and bringing down a leg is certainly a safer and more reasonable procedure.

## FIRST AID INSTRUCTION TO PUBLIC SCHOOL SCHOLARS

Drachm, Salt Lake City, writes: A western physician has a 14-year-old boy who recently showed that he was not alone possessed of good sound horse sense and proper surgical instinct, but is a good booster for his father. While playing with a crowd of boys one little chap ran a rusty nail into the sole of his foot. The doctor's boy, immediately carried him into a nearby house, where, in spite of his patient's tears and protestations, he first removed the shoe and stocking, and after washing the foot carefully with hot water, carried him several blocks on his back to his father's office, where the wound was disinfected and dressed. The incident suggests the good that might be accomplished, or rather the harm that might be prevented, by a little instruction along these lines to the older pupils in the public schools.

## HERNIOPLASTY.

Dr. Hermann B. Gessner, New Orleans, writes to suggest the use of the word "hernioplasty" to replace the expression "radical cure operation for hernia." The reasons for the substitution are, he believes, obvious.

# Marriages.

Edward B. Hodge, Jr., M.D., to Miss Mary G. C. Greene, both of Philadelphia, February 10.

Thaddeus Cothern, M.D., Walcott, Ark., to Miss Anna Hutchins of Finch, Ark., January 24.

Theodore H. Page, M.D., Gold Hill, Colo., to Miss Mathilda Heidrich of Peoria, Ill., February 9.

Andrew Clifton Hansen, M.D., Fulton, Ill., to Miss Stella L. Griffin of Peoria, Ill., December 31.

James A. Turner, M.D., High Point, N. C., to Miss Fannie M. Little of Charlotte, N. C., February 4.

Ernest F. Robinson, M.D., Kansas City, Mo., to Miss Mary Kip of San Francisco, at Omaha, February 6.

J. Miller Byrne, M.D., Waynesboro, Ga., to Miss Mary Willie Heggie of Grovetown, Ga., February 24.

John Duncan Emmet, M.D., New York City, to Miss Josephine Wharton Drexel of Philadelphia, February 9.

# Deaths.

**Virgil O. Hardon**, M.D. Bellevue Hospital Medical College, New York, 1874, professor of obstetrics and diseases of women and children in the Atlanta College of Physicians and Surgeons, died at his home in Atlanta, Ga., from pneumonia complicated by organic heart disease, February 7, after an illness of ten days, aged 54. The active and honorary pallbearers were members of the faculty of the college, and the Atlanta Academy of Medicine furnished an honorary escort of its members.

**John Eggleston Byers**, M.D. New York University, 1879, for twenty years surgeon of the Pennsylvania Railroad at Butler, Pa.; a member of the National Association of Railway Surgeons, the Medical Society of the State of Pennsylvania, and recently president of the Butler County Medical Society, died suddenly from cerebral hemorrhage, February 8, aged 49. His death is attributed to overwork as county physician during the recent epidemic of typhoid fever.

**Jacob Repelye Ludlow**, M.D. University of Pennsylvania, Philadelphia, 1845, lieutenant-colonel in the medical department during the Civil War; first president and a life-long member of the Easton Medical Society, died from pneumonia at his home in Easton, Pa., February 10, aged 79. He retired from practice five years ago.

**Henry Lyle Smith**, M.D. College of Physicians and Surgeons, New York, 1864, a member of the New York State Medical Association, the New York State and Columbia County societies, and of the Society of the Alumni of Bellevue Hospital, New York, died, February 11, at his home in Hudson, N. Y., aged 60.

**John W. Jones**, M.D. University of Pennsylvania, Philadelphia, 1857, for many years a member of the State Board of Health, and once president of the Medical Society of the State of North Carolina, died at his home in Tarboro, N. C., January 28, from paralysis, after an illness of a few hours, aged 72.

**Edward C. Runge**, M.D. Washington University, St. Louis, 1891, up to February 1, superintendent of the St. Louis Insane Asylum, died at his home in St. Louis, February 10, from pneumonia, following influenza, after an illness of one week, aged 50.

**Edward Howard Moore**, M.D. Starling Medical College, Columbus, 1903, chief assistant at the Lawrence Hospital for Women, Columbus, died at the hospital, February 6, from cerebral meningitis, after a short illness, aged 28.

**Joseph G. Rooney**, M.D. New York University, 1891, of West Hoboken, N. J., died February 4, from gangrene following frost-bite of the hands, January 18, when he attended a number of firemen who had been injured.

**M. Luther Goodlett**, M.D. Medical College of the State of South Carolina, Charleston, 1861, surgeon in charge of Winder Hospital, Richmond, during the Civil War, died at his home in Tupelo, Miss., February 5, aged 69.

**Howard Jackson Seeley**, M.D. Long Island College Hospital, Brooklyn, 1899, professor of histology in that institution, a resident of Brooklyn, died at Asheville, N. C., from pneumonia, February 7, after a brief illness.

**Joseph B. Roe**, M.D. University of Pennsylvania, Philadelphia, 1861, surgeon for four years during the Civil War, and state senator in 1889 and 1890, died at his home in Woodbury, N. J., February 4, aged 68.

**John R. Hinkson**, M.D. Bellevue Hospital Medical College, New York, 1889, died at his home in Blissville, Long Island City, February 5, from pneumonia, after an illness of one day, aged 48.

**Frederick Corfe**, M.D., surgeon in the British service and also in the Civil War, died suddenly from heart disease while responding to a toast at a banquet in Union, Iowa, January 29, aged 69.

**Nicholas M. Edwards**, M.D. University of Pennsylvania, Philadelphia, 1860, died at his home in Slater, Mo., February 8, from paralysis following a fall four days before, aged 66.

**Daniel Francis Murphy**, M.D. Harvard University Medical School, Boston, 1887, died from pneumonia at his home in Woburn, Mass., January 30, after a short illness, aged 44.

**Charles Edward Manierre**, M.D. Chicago Medical College, 1882, of Chicago, a member of the American Medical Association, died at Oconomowoc, Wis., February 8, aged 43.

**Richard McDermott**, M.D. Starling Medical College, Columbus, 1882, died at his home in Thompsonville, Mich., February 4, from gallstone disease, after a long illness, aged 53.

**John Mercer Adler**, M.D., of Devon, Pa., chief surgeon of the military hospital at Davenport, Iowa, in the Civil War, died at his home, February 13, from apoplexy, aged 76.

**Christopher B. Naudain**, M.D. Pennsylvania Medical College, Philadelphia, 1856, was found dead at his home in Wilmington, Del., from heart disease, February 1, aged 67.

**Charles H. St. John**, M.D. Kansas City (Mo.) Homeopathic Medical College, 1896, died at his home in Salina, Kan., February 5, after an illness of several weeks.

**Oscar Everett Carter**, M.D. University of Vermont, Burlington, 1884, died suddenly at his home in St. Johnsbury, Vt., from heart disease, January 29, aged 44.

**Theodore F. Stark**, M.D. Jefferson Medical College, Philadelphia, 1877. died at his home in Minneapolis, Minn., January 30.

**Charles Frank Keys**, M.D. New York University, 1891, died at his home in Keyser, W. Va., February 4, from pneumonia, after an illness of three weeks, aged 35.

**Henry Bigelow Allen**, M.D. Bellevue Hospital Medical College, 1866, died at his home in Baldwinsville, N. Y., January 30, after an illness of six years, aged 60.

**J. L. Roll**, M.D. Louisville Medical College, 1881, died at his home near Wilderville, Texas, from consumption, after an illness of several months, January 30.

**Elias Vernon**, M.D. Jefferson Medical College, Philadelphia, 1851, died at his home in Hamilton, Ont., February 6, after a long period of invalidism, aged 76.

**Frank Gaylord Eastman**, M.D. College of Physicians and Surgeons, New York, 1890, died at his home in East Greenwich, Conn., February 8, aged 37.

**John R. Anderson**, M.D. University of Nashville, 1859, died at the home of Dr. John W. Nuckolls, Toone, Tenn., February 8, after a long illness, aged 72.

**Luther B. Hunley**, M.D. University of Maryland School of Medicine, Baltimore, 1877, died at his home in Mathews, Va., February 4, from pneumonia.

**Ashbel R. Otis**, M.D. Jefferson Medical College, 1867, died from pneumonia at his home in Dundee, N. Y., February 5, after a short illness, aged 62.

**Bernard J. Carr**, M.D. College of Physicians and Surgeons, Baltimore, 1895, died at his home in Beloit, Wis., from typhoid fever, February 8, aged 35.

**Charles S. Pugsley**, M.D. University of Buffalo, 1870, died in Olean, N. Y., from Bright's disease, after a long illness, January 30, aged 59.

**Charles W. Dodd**, M.D. University of Michigan, Ann Arbor, 1884, died suddenly from apoplexy, at his home in Cincinnati, February 7, aged 44.

**Enoch F. Bradford**, M.D. Harvard University Medical School, Boston, 1869, died at his home in Mechanic Falls, Me., February 8, aged 69.

**Edward Silverberg**, M.D. University of Louisville, 1855, of Knobel, Ark., died at St. Vincent's Infirmary, Little Rock, February 9.

**Enoch Q. Marston**, M.D. Harvard University Medical School, Boston, 1876, died at his home in Center Sandwich, N. H., February 1.

**William H. Jones**, M.D. Medical College of Ohio, Cincinnati, 1869, died suddenly at his home in Henry, Ill., February 9, aged 60.

**James H. Fleming**, M.D. Missouri, 1866, died at his home in Joplin, Mo., February 3, from paralysis, after a brief illness, aged 71.

**Henry Cornell**, M.D. University of Vermont, Burlington, 1854, died suddenly at his home in Hillsdale, N. Y., January 24, aged 84.

**William L. Robinson**, M.D. Eclectic Medical Institute, Cincinnati, 1886, of Milton Center, Ohio, died recently in Toledo, aged 42.

**William D. Wade**, M.D. Eclectic Medical Institute, Cincinnati, 1870, died at his home in Plymouth, Ill., February 8, aged 62.

**Ida E. Mushett**, M.D. Eclectic Medical Institute, Cincinnati, 1879, died at her home in Napa, Cal., February 2, after a short illness.

**John A. Groff**, M.D. University of Pennsylvania, Philadelphia, died at his home in Reading, Pa., February 4, aged 59.

**P. P. Gray**, M.D. Hahnemann Medical College, Chicago, 1880, died at his home in Ellensburg, Wash., February 7, aged 60.

**Ora E. Marvin**. M.D., of Springfield, Mass., died suddenly from apoplexy, at Westfield, Mass., February 1, aged 56.

**Thomas Mullin**, M.D. Ohio, died suddenly from heart disease at his home in Marietta, Ohio, February 6, aged 48.

**Henry W. Hill**, M.D. New York University, 1849, died at the home of his son in Rome, Ga., February 6, aged 70.

**David D. Ross**, M.D. Eclectic Medical Institute, Cincinnati, 1863, died at his home in Peoria, Ill., recently.

**Joseph Hoffmeister**, M.D., died at his home in Rutledge, Tenn., February 8, aged 78.

**J. H. Wood**, M.D., died at the home of his son in Emporia, Va., February 8, aged 85.

**Emil Barringer**, M.D., died at his home in Watervliet, Mich., February 4, aged 58.

# Miscellany.

**Otero's Method of Demonstrating the Malaria Parasite.**—M. Otero of Mexico writes to the *Gaceta Medica* of March 15, 1903, that at the high altitude of the city of Mexico the barometric pressure is much less than at the altitudes where Laveran made his experiments with the malaria parasite. Consequently the hematozoa retain their motility longer. The corpuscles in the blood become disintegrated long before the parasites lose their motility. By waiting six to nine or even twenty-four hours the hematozoa are still lively while the corpuscles are destroyed. They are thus easily differentiated without the necessity for staining, which impairs the vitality of micro-organisms.

**The Bureau of Standards.**—This bureau, which was transferred to the Department of Commerce and Labor last year, tests and standardizes all weights and measures. This includes the testing of clinical thermometers to secure a uniform scale of temperature. According to the bulletin just received, when the work of this bureau began, considerable variation was found in thermometers; as a result of the corrections given, thermometers now submitted by different manufacturers vary from the international standard only very minutely. Attention is called in this bulletin to the fact that thermometers not made of hard glass change their indications slightly by seasoning. After six months the indications are practically permanent.

**Contract Practice.**—The Norfolk (Va.) Medical Society recently took up the subject of contract practice and adopted certain rules governing it. Individual or family contracts are prohibited by that society. Governmental contracts are allowable as in the past. In regard to corporations, it was decided that the employment of a surgeon to care for men injured while in the employ of the company, is allowable, providing it does not prevent the patient from having free choice in the selection of the physician, but the society "would prefer that the surgeon be paid for actual work done and not a yearly salary." Any underbidding for insurance fees is considered not consistent with membership in the society. Club practice, which is defined as a branch of contract practice which furnishes medical attention to members through an organization or club, is prohibited. It was decided that "this class of practice injures the profession as a whole financially; that it lowers the dignity of the profession by putting the men who do this work at the mercy of promoters, and that it is of great injury to the members of the medical fraternity."

**Homeopathy Given a Chance in the Leyden Medical Faculty.**—The chair of pathology and therapeutics at the University of Leyden, Holland, has been vacant since the retirement of Professor Rosenstein who reached the age limit nearly a year ago. When the government indicated its intention of calling a homeopath to the chair, the medical faculty protested. One member of the faculty, Professor Straub, editor of the local medical journal, did not agree with his confrères, and approved of the plan, stating that he would like to see a homeopath in the chair and a well-equipped hospital placed in his charge in order to give homeopathy once for all a chance to show what it could accomplish. If it could show better results than were attained in the other clinics and hospitals, the profession would gladly recognize it. The matter was discussed pro and con for a long time in the lay press, and the recommendations of Professor Straub were finally adopted and further opposition abandoned. The minister then appointed two homeopaths to select a suitable candidate to fill the chair worthily, the only restriction being that he must not be a Hollander, as local professional clashing was feared. The nominating committee traveled far afield, and among others sought the credentials of a "Dr." Mende-Ernst, an ex-parson homeopath charlatan in Switzerland. The latter at once advertised abroad that he had been offered the chair and had accepted it, and this item went the rounds of the medical press. But it was untrue, as the committee dropped him at once from its list so soon as his reputation was known. The results of their search, embodied in their report, are to the effect that they were absolutely unable to find a homeopath with sufficient educational acquirements for a professorship in a university. Consequently a young physician, a Hollander, Dr. P. Ruitenga, has been called to the chair which was the scene of Stokvis' labors, and he entered on his duties with the new year. The *Wiener klinische Rundschau* of January 17 publishes a letter from Amsterdam in which the writer comments on the above facts and says that the homeopaths can never more make their old complaint that they are never given a chance.

**Diet.**—The *Medical Sentinel* condemns the diet craze, and suggests that the profession, instead of passively allowing patients to putter with some of the hundreds of patent breakfast foods, should turn their attention away from morbid self-dieting. The concentrated nourishment theory is a myth, and it is recommended that patients be allowed to eat these alleged foods only on the proviso that they eat breakfast first. The editor says that one egg or two small rashers of bacon contain more actual nourishment than a soup dish full of the flaky delusions. This may be true, but we doubt the advisability of recommending eggs or bacon, as they are ordinarily fried, as food for dyspeptics. The editor hits the nail on the head in the following words: "The conviction is steadily growing in the profession that disturbances of digestion, let alone other diseases, are due in eight cases out of ten, not so much to the food used, either in quantity, quality, or method of cooking, as to the circumstances under which it is eaten; the disgraceful hurry and rush with which business or pleasure is resumed before the digestion has had time to get fairly under way, and the utter lack of an adequate amount of exercise in the open air to enable proper combustion of the food. Further than that we are reacting decidedly from the exclusive and rigid diet for almost any condition whatever, with the partial exception of diabetes. Even where these exclusive diets may relieve the symptoms which they are designed especially to meet, they are very apt to upset the general balance of nutrition and impair the vitality, frequently in the long run aggravating even the symptoms, or the disease, which they were prescribed to cure." On the same subject is an article in *The World's Work* (February) on "Perfect Feeding of the Human Body," which is only a description of how one man, Mr. Horace Fletcher, having been refused life insurance on the ground of stomach trouble, corrected his habits and vastly improved his health. He does not diet in the ordinary understanding of the word. He eats everything, but in very small quantities. He has a rule to take thirty chews on each portion of food he places in his mouth. He says that the longer he chews the better it tastes. He now eats one-third or one-quarter what he formerly ate. He can do physical exertion equal to an athlete in training without fatigue, and finds less sleep necessary. This is not a new theory, but it is all right. Morbid introspection is the bane of the dyspeptic. An abundance of time to eat, a thorough mastication and cheerful surroundings are better than all the diet lists and breakfast foods that have ever been prepared.

# State Boards of Registration.

## COMING EXAMINATIONS.

Regent of the State Board of Medical Examiners of New Hampshire, State House, Concord, March 1-2. Regent, Channing Folsom, M.D., Concord.

Board of Registration in Medicine for Massachusetts, State House, Boston, March 8-9. Secretary, Edwin B. Harvey, M.D., State House, Boston.

Committees of Examination of Connecticut, New Haven, Hartford and Waterbury, March 8. Secretary, Prof. C. A. Lindsly, New Haven.

Maine Board of Registration of Medicine, Portland, March 23. Secretary, A. K. P. Meserve, M.D., Portland.

Regular Board of Medical Examiners for Georgia, *Atlanta*, March 30. Secretary, I. H. Goss, M.D., Athens.

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**North Dakota Report.**—Dr. H. M. Wheeler, Grand Forks, secretary of the North Dakota State Board of Medical Examiners, reports that 16 applicants passed, out of 18 who took the written examination in January at Grand Forks. The percentage required was 75. The colleges, grades and years of graduation are below.

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| | (1903) | 76, 76, 78 |
| Milwaukee Medical College | (1903) | 85, 86 |
| Northwestern University, Chicago | | 87 |
| University of Minnesota | (1900) 80, (1901) | 87 |
| Royal University of Norway | (1891) | 82 |
| University of the City of New York | (1889) | 78 |
| University of Iowa, Hom. Dept | (1898) | 75 |
| University of Illinois | (1903) | 75 |
| Hamline University | (1901) | 87 |
| [illegible]a, Norway | (1897) | 82 |
| [illegible] | (1903) | 82 |
| [illegible] | (1903) | 76 |
| University of Western Canada | (1902) | 82 |

Those rejected were graduates of Bennett Medical college, 1895, and Milwaukee Medical College, 1902.

South Dakota Report.—Dr. H. E. McNutt, Aberdeen, secretary of the South Dakota Board of Medical Examiners, reports the written examination held at Sioux Falls, Jan. 13 and 14, 1904, as follows: Subjects, 10; questions, 80; percentage required, 75; total applicants, 24; passed, 17; failed, 4; withdrew, 3.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Northwestern University, Chicago | (1900) 86, (1903) | 79, 86 |
| Rush Medical College, Chicago | (1880) | 89 |
| College Physicians and Surgeons, New York | (1891) | 84 |
| Milwaukee Medical College | (1902) | 82 |
| Beaumont Hospital Medical College | (1897) | 83 |
| Hamline University | (1903) | 85 |
| Woman's Medical College of Pennsylvania | (1903) | 93 |
| Yale University | (1902) | 81 |
| Saginaw Valley (Michigan) Medical College | (1902) | 78 |
| Sioux City College of Medicine | (1897) | 88 |
| Michigan University | (1902) | 87 |
| Alabama Medical College | (1884) | 75 |
| University of Christiania, Norway | (1891) | 90 |
| Harvey Medical College, Chicago | (1903) | 87 |
| Bennett Medical College, Chicago | (1900) | 82 |

Those who failed were graduates of the following colleges: University of Iowa, 1897; Hamline University, 1903; College of Physicians and Surgeons, St. Louis, 1898; New York University Medical College, 1890. Those who withdrew were graduates of Sioux City College of Medicine, 1903; Baltimore University, 1887, and University of Vermont, 1889. Three others who were unfitted left the state without attempting the examination, although they had applied and paid the fee.

# The Public Service.

## Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Feb. 13, 1904:

Hess, Louis T., and Collins, C. C., asst.-surgeons, promoted captain and asst.-surgeon, U. S. Army, to rank from Jan. 30, 1904.

Webb, Walter D., asst.-surgeon, promoted captain and asst.-surgeon, U. S. Army, to rank from Feb. 10, 1904.

Graves, Leonard K., contract surgeon, ordered to proceed from New York City to Fort Douglas, Utah, and accompany the Twelfth Infantry to service in the Philippines.

Ferguson James B., contract surgeon, ordered from Boise Barracks, Idaho, to duty as transport surgeon of the *Dix*.

Tukey, William H., contract surgeon, at present transport surgeon of the *Dix*, ordered to proceed when relieved to Boise Barracks, Idaho, for duty.

Tignor, Edwin P., contract dental surgeon, ordered from Jefferson Barracks, Mo., to temporary duty at Fort Crook, Neb., on the completion of which he will return to his proper station, Fort Riley, Kan.

## Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Feb. 13, 1904:

Stuart, A., asst.-surgeon, detached from the naval hospital, Naval Home, Philadelphia, Pa., and ordered to the *Marietta*.

Brister, J. M., asst.-surgeon, ordered to the naval hospital, Naval Home, Philadelphia.

Wheeler, W. M., surgeon, detached from the *Nipsic* and ordered to the *Philadelphia*.

## Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 11, 1904:

Brooks, S. D., surgeon, granted leave of absence for four months from April 1, 1904, with permission to go beyond the seas.

Magruder, G. M., surgeon, granted leave of absence for two days from February 13.

Greene, J. B., P. A. surgeon, granted fifteen days' extension of sick leave from February 10.

Clark, Taliaferro, P. A. surgeon, to proceed to San Juan, P. R., and assume temporary charge during the absence of the chief quarantine officer.

Richardson, T. F., and King, W. W., asst.-surgeons, to report March 9, 1904, to chairman of examining board at Washington, D. C., to determine their fitness for promotion to the grade of P. A. surgeon.

Ramus, Carl, asst.-surgeon, to report, March 9, 1904, to chairman of examining board at San Francisco for examination to determine his fitness for promotion to the grade of P. A. surgeon.

Moore, Dunlop, Holt, J. M., Vogel, C. W., and Fox, Carroll, asst.-surgeons, to report, July 25, 1904 to the recorder of examining board at Manila, P. I., for examintion to determine their fitness for promotion to the grade of P. A. surgeon.

Goldberger, Joseph, asst.-surgeon, granted leave of absence for one month from February 10.

BOARDS CONVENED.

Board convened at San Francisco for the examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-surgeon Carl Ramus, recorder.

Board convened at the Marine Hospital, Port Townsend, Wash., Feb. 15, 1904, for the examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; P. A. Surgeon M. H. Foster, recorder.

Board to meet at the Marine Hospital, San Francisco, March 9, 1904, to examine Asst.-surgeon Carl Ramus to determine his fitness for promotion to the grade of P. A. surgeon. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon Rupert Blue; P. A. Surgeon H. S. Cumming, recorder.

Board to meet at Washington, D. C., March 9, 1904, to examine certain assistant surgeons to determine their fitneess for promotion to the grade of passed assistant surgeon. Detail for the board: Asst.-Surgeon-General A. H. Glennan, chairman; Asst.-Surgeon-General G. T. Vaughan; Asst.-Surgeon-General H. D. Geddings, recorder.

Board convened to examine certain assistant surgeons to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Asst.-Surgeon-General L. L. Williams, chairman; Asst.-Surgeon-General W. J. Pettus; P. A. Surgeon V. G. Heiser, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Feb. 12, 1904:

SMALLPOX—UNITED STATES.

[illegible]co, Jan. 24-31, 3 cases.
[illegible]30-Feb. 6, 1 case.
[illegible] Jan. 30-Feb. 6, 5 cases.
Maine: Calais, Feb. 7, 5 cases; Madison, Jan. 28, 1 case.
Maryland: Baltimore, Jan. 30-Feb. 6, 1 case.
Michigan: Jan. 23-30, 88 places; Jan. 30-Feb. 6, Detroit, 3 cases; Flint, 1 case.
New Hampshire: Manchester, Jan. 30-Feb. 6, 9 cases.
New Jersey: Jan. 30-Feb. 6, Newark, 1 case; Trenton, 3 cases, 1 death.
New York: Jan. 30-Feb. 6, Niagara Falls, 1 case; New York, 5 cases.
Ohio: Jan. 30-Feb. 6, Bucyrus, 9 cases; Dayton, 12 cases; Cincinnati, Jan. 22-Feb. 5, 6 cases.
Pennsylvania: Jan. 30-Feb. 6, Allentown, 2 cases; Butler, 1 case; Johnstown, 5 cases; McKeesport, 2 cases; Philadelphia, 54 cases, 16 deaths; Pittsburg, 5 cases, 1 death; Warren, Jan. 1-Feb. 1, 10 cases, 2 deaths.
Tennessee: Nashville, Jan. 30-Feb. 6, 8 cases.
Utah: Ogden, Jan. 1-31, 1 case; Salt Lake City, Jan. 30-Feb. 6, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Dec. 12-Jan. 2, 2 cases, 2 deaths.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 9-16, 5 cases.
Belgium: Liege, Jan. 9-16, 1 case, 1 death.
Brazil: Rio de Janeiro, Jan. 3-10, 34 cases, 22 deaths.
Canada: Ontario, Dec. 1-31, 13 cases.
Chile: Antofogasta, Dec. 1-31, 3 deaths.
China: Shanghai, Dec. 19-26, 6 deaths.
Colombia: Barranquilla, Jan. 12-18, 1 death.
France: Paris, Jan. 16-23, 17 cases, 9 deaths.
Great Britain: Jan. 9-16, Nottingham, 5 cases, 1 death; Sheffield, 1 case; Jan. 16-23, Hull, 1 case; Liverpool, 1 case; London, 3 cases; Manchester, 2 cases; Newcastle-on-Tyne, 3 cases; Glasgow, Jan. 22-29, 71 cases; 2 deaths.
India: Bombay, Jan. 5-12, 6 deaths; Karachi, Jan. 3-10, 2 cases.
Mexico: Tampico, Jan. 24-31, 1 death.
Netherlands: Rotterdam, Jan. 16-23, 1 case.
Russia: Moscow, Jan. 2-9, 2 cases, 2 deaths; Jan. 9-16, Odessa, 1 death; St. Petersburg, 18 cases, 3 deaths.
Spain: Barcelona, Jan. 10-20, 5 cases; Santander, Jan. 18-26, 4 cases, 2 deaths.
Turkey: Smyrna, Jan. 3-18, 9 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Jan. 2-9, 1 case.
Mexico: Jan. 17-30, Merida, 1 case, 1 death; Tehuantepec, 2 cases, 2 deaths; Vera Cruz, Jan. 23-30, 1 case, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Dec. 12-Jan. 2, Manila, 9 cases, 8 deaths; Provinces, 44 cases, 33 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Dec. 26-Jan. 9, 30 deaths.
Turkey in Asia: Nindieh, Dec. 12-19, 2 deaths; Kerbela, Dec. 11-22, 422 deaths; Messieb, Dec. 18-20, 32 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Dec. 12-Jan. 2, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: Queensland, Cairns, Dec. 5, 2 cases.
Rio de Janeiro: Jan. 3-10, 10 cases, 5 deaths.

India: Bombay, Jan. 5-12, 186 deaths; Calcutta, Dec. 26-Jan. 9, 33 cases; Karachi, Jan. 3-10, 8 cases, 5 deaths.

Mauritius: Dec. 31-Jan. 7, 55 cases, 37 deaths.

South Africa: Natal, Dec. 5-12, 2 cases.

## Medical Organization.

### California.

San Benito County Medical Society.—A meeting of physicians of the county was called by Dr. Philip M. Jones, San Francisco, trustee of the state medical society, at Hollister, January 24, for the purpose of organizing a county society on the standard plan. Dr. James H. Tebbetts, Hollister, was elected temporary chairman. A constitution and by-laws in conformity with those of the state society were adopted, and the following permanent officers elected: President, Dr. James H. Tebbetts, vice-presidents, Dr. Richard W. O. Bannon; secretary, Dr. Joseph M. O'Donnell; treasurer, Dr. Leonard C. Hull, and censors, Drs. Francis O. Nash, Ian Don Ball, and George C. Porter, all of Hollister.

### Ohio.

Hancock County Medical Society.—Complete organization of this society was effected at a meeting held in Findlay, February 4. The following officers were elected: President, Dr. John C. Tritch, Findlay; vice-president, Dr. Leroy S. Woods, Rawson; secretary, Dr. John M. Firmin, Findlay; treasurer, Dr. Joseph P. Baker, Findlay; delegate to state society, Dr. Jacob A. Kimmel, Findlay; censors, Drs. Norman L. McLachlan, Findlay, Myron J. Ewing, Findlay, and Edward G. Hersh, McComb, and committee on public health and legislation, Drs. Francis W. Firmin, Alfred W. Balsley and Herbert V. Beardsley, all of Findlay.

Lake County Medical Society.—Dr. Thomas C. Martin, Cleveland, secretary of the council of the Ohio State Medical Association, and councilor for the Fifth District, met the physicians of the county at Painesville, February 6, detailed the standard plan of organization, enumerated its benefits, and aided in the organization of a county society. The standard constitution and by-laws were adopted, and the following officers elected: Dr. Edward B. Root, Painesville, president; Dr. Henry E. York, Fairport, vice-president; Dr. Thomas M. Moore, Willoughby, secretary; Dr. H. N. Amidon, Painesville, treasurer; Dr. Harris G. Sherman, Painesville, delegate to state society; Drs. David J. Merriman, Painesville, John W. Lowe, Mentor, and Charles H. Quayle, Madison, censors, and Drs. Charles F. House, Painesville, David J. Merriman, Painesville, and Thomas M. Moore, Willoughby, committee on public health and legislation.

### Texas.

Fifth District Medical Society.—Representatives from sixteen counties of this district met at San Antonio, February 2. Dr. Malone Duggan, Eagle Pass, Maverick County, was elected temporary chairman, and Dr. Marvin B. Grace, Seguin, Guadalupe County, temporary secretary. After Dr. Witten B. Russ, San Antonio, councilor for the district had stated the object of the meeting, a committee, consisting of Drs. Alonzo Garwood, New Braunfels, Comal County, and John V. Spring and Witten B. Russ of San Antonio, Bexar County, was appointed to draft a constitution and by-laws. At the evening session this committee made its report, and presented a constitution and by-laws, which were adopted. The following officers were elected: President, Dr. Malone Duggan, Eagle Pass, Maverick County; vice-presidents, Drs. J. R. Evans, Devine, Medina County, William S. Pickett, Karnes City, Karnes County, Charles W. Watt, Uvalde, Uvalde County, Henry Leonard New Braunfels, Comal County, David H. Houston, Floresville, Wilson County, Asa M. Stamps, Seguin, Guadalupe County, and R. N. Lane, Eagle Pass, Maverick County; secretary, Dr. Marvin B. Grace, Seguin, Guadalupe County; treasurer, Dr. John T. Fitzsimon, Castroville, Medina County, and censors, Drs. Alonzo Garwood, New Braunfels, Comal County, W. A. King, Falls City, Karnes County, and William Myers, Seguin, Guadalupe County.

## Society Proceedings.

### ACADEMY OF MEDICINE OF CLEVELAND.

*Regular Meeting, held Jan. 15, 1904.*

The President, Dr. George W. Crile, in the Chair.

Dr. S. W. Kelly described and exhibited a new truss for abdominal hernia.

#### Ankylosis and Caries Due to Gonorrheal Infection.

Dr. C. A. Hamann said that joint affections of various kinds may be caused by the gonococcus, and ankylosis is a frequent result of the inflammatory process. Broadhurst mentions a case where every joint in the body became ankylosed. The union is usually fibrous, but there may be true bony ankylosis. One group of cases, the milder form, shows no change in the position of the limb and no contractures, but in two of the cases here reported, although there was no deformity there was extensive destruction of the joint. In the other group of cases there are various displacements and muscular contractures; destruction of the joint surfaces may follow with resulting ankylosis, shortening and lameness.

Case 1.—The patient had gonorrhea seven months before Dr. Hamann saw him, the hip became painful and fibrous ankylosis in the extended position of the limb developed. There was little, if any motion of the joint, but there was a sort of springiness and the periarticular muscle became contracted on attempting to move the joint. Under an anesthetic, and by using considerable force the adhesions were broken down, there was marked improvement, but not complete restoration of function.

Case 2.—Patient contracted gonorrhea, and within a month acquired gonorrheal rheumatism, affecting the right hip only. He spent three months in bed with the thigh abducted and flexed; on first sitting up he could not walk, but four weeks later could do so without a cane. Operation was performed four weeks after onset of the gonorrhea, which still existed, as was shown by gonococci in the urethral discharge. There was marked obliquity of the pelvis; curving of the lumbar spine; thigh flexed and abducted; right buttock flattened; gluteal crease oblique; base of right thigh broader than that of the left; no atrophy of muscles; distance between the right anterior superior spinous process and the inner condyle 16½ inches, left side 20 inches; trochanter major not below Nélaton's line; this was determined at the operation, but not distinctly felt previously, as it was deeply placed; foot was everted. The symptoms were those of an obturator dislocation, and it was so regarded at first. Under anesthesia the supposed dislocation could not be reduced, nor could any motion be obtained in the joint, the joint was therefore incised, and the head of the bone found firmly united by bone with the acetabulum. The neck of the femur was divided close to the trochanter, the bony surfaces modeled into close relation and the limb put up in extension; a plaster cast was employed later and a good result obtained; the patient can walk with a cane, the hip is extended, and there is some shortening. As the patient has not been seen lately, it is unknown whether there is bony union or movement in the new joint.

In a search of the literature Dr. Hamann could find but one case each of excision of the hip and of the knee for gonorrheal arthritis; the following cases should, therefore, prove of interest.

Case 3.—Patient contracted gonorrhea in June, 1903, within a month had pain in right hip, knee and ankle; pain severe; contractures developed; medication had no effect, the position of limb was corrected under anesthesia and a cast applied. In October there was thickening of right hip, eversion of limb and pain on pressure or motion, fever 101-102 for a time. The condition resembled either tuberculosis or a neoplasm. At the operation in November the head of the femur and acetabulum were found to be eroded from granular ostitis; the cartilage and ligamentum teres were destroyed; there was no pus but granulation tissue, some partly organized, was found. The case appeared to be tubercular and was treated as such by excision of the joint and thorough curetting of the diseased tissue. The case progressed very favorably; the result is all that could be desired. The pathologic examination showed granulation tissue, but no evidences of tuberculosis, such as giant cells, etc., could be found; no tubercle bacilli or other bacteria could be found in stained sections; cultures were negative. Syphilis having been excluded and there being no evidence of tuberculosis, the process was thought to be due to the gonococcus.

CASE 4.—The patient, 41 years old, while suffering from gonorrhea began to have pain in left hip, knee and shoulder, 2½ months before admission to the City Hospital. He had also some fever and sweating, and had lost weight rapidly for the previous month. The usual treatment for gonorrheal rheumatism served merely to lessen the pain in the knee. Two months after admission the left hip was tender on pressure, and there was pain on attempted motion; the limb was extended and there was no fever; the joint was visibly thickened and the condition resembled that of the last case. As there was no improvement the joint was excised and the diseased tissue curetted away. No pus was found, but masses of granulation tissue and semi-organized lymph occupied the joint; the articular surfaces of the femur and acetabulum were eroded and the cartilages and ligamentum teres were partly destroyed. The wound healed by first intention. Bacteriologic examination of the diseased tissue gave one culture on ascites bouillon of a diplococcus morphologically like the gonococcus and decolorizing by Gram's method, other cultures were negative. Pathologically irregular areas of necrosis were found on the articular surface of the femur, no pus was found. Microscopically no giant cells or other evidences of tuberculosis could be found. Sections stained for tubercle bacilli and gonococci were negative.

In addition to these two cases Dr. Hamann has excised the wrist joint for a similar condition.

### DISCUSSION.

DR. F. BUNTS said that the existence of gonorrhea seemed to cause an increased liability to tuberculosis. The gross appearances of these two joint affections are very similar, but the microscopic examination will clear up the diagnosis. Most joint complications in gonorrhea occur within a month of the onset of the disease; the involvement of the hip is relatively infrequent. The operative results are very favorable and differ from those in tuberculosis by the wounds' healing readily without any troublesome sinuses.

DR. HAMANN said that medical treatment should first be tried, but the results were usually poor. If caries or ankylosis were present or if the patient was growing worse operation was indicated. Arthrotomy and antiseptic irrigation might be sufficient, but resection might be necessary.

DR. MARTIN FRIEDRICH read a paper on "How the Water Supply of Butler Became Infected," giving his conclusions from observations made on the scene.

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## Book Notices.

THE NATURE OF MAN. Studies in Optimistic Philosophy. By Elie Metchnikoff, Professor at the Pasteur Institute. The English Translation. Edited by P. Chalmers Mitchell, M.A., D.Sc., Oxon., Secretary of the Zoological Society of London. Cloth. Pp. 309. Price, $2.00 net. New York and London: G. P. Putnam's Sons. 1903.

This work, which has been widely noticed in the secular press and almost universally with favor, is a striking contribution of the day. The author needs no introduction to medical readers, but the present volume will probably be a revelation in some respects to most of them. It is the work of a biologist as well as that of a physician and bacteriologist, and the author accepts the most advanced materialism of the period. He begins by speaking of the discontent and uneasiness that exist throughout the world to-day, the desire for universal happiness and the failure thus far to find the right way to obtain it. Religion, he asserts, has failed, and man has developed into a condition where his organism is in many respects out of accord with Nature about him. He foresees a remedy for the present state of affairs in the general adoption of the teachings of exact science as a guide for human conduct. It might, perhaps, be questioned just what an exact science is in these days when the discoveries that are crowding on each other seem to overthrow our opinions of such solid facts as matter and such universal agencies as force. Science has not yet reached the point of absolute exactness nor do we feel depressed by the fact, as Professor Metchnikoff seems to be, that there are yet probably unsolvable problems before us. A large proportion of the work is given to the subject of "disharmonies," as he calls them, that are found in the human organism. Man, he says—and it seems to us somewhat of an assumption—is the result of a miscarriage of an anthropoid ape born before the complete development of simian characters and while the embryo was still in a stage in which the higher nervous centers most predominated. The reasons why the simian embryo should be more human before its complete development and extrusion are not very clear nor are they given here, but such seems to be a fact. Coming thus, as it were, unprepared on the world, Professor Metchnikoff seems to think it is only natural that man finds himself at many disadvantages. A sudden change in the natural conditions is brought about and, he says, a large series of organized disharmonies arise which become more acutely felt as man becomes more delicate and sensitive. The greatest disharmonies are those of the morbid nature of old age and the impossibility of reaching the instinct of natural death. Metchnikoff prophesies that many of these disadvantages will be overcome by the acquisitions of science and by the study of the human constitution. Human life will then be prolonged far beyond its present limit and death will come to the individual not as a dreaded event, but as one looked for and as altogether a natural process in his existence. It is a little remarkable that, with his rejection of religion throughout, he puts such apparent faith in the early histories of the patriarchs and their prolonged existence. Under the new arrangement he looks for, old age will have its functions, social and political, far beyond its present possibilities. It will not be a hardship or useless existence, but the crowning period of a useful life. The prospect is a very pleasant one, provided one accepts the author's views in their entirety. Most people, however, are so constituted that exact science does not seem to them a cure-all for the evils of life. They must look forward to something supernatural—as directing their future. Professor Metchnikoff's former master, Pasteur, was one of them, and yet he was none the less a scientific man. There is also something in the view that there is an eternal justice in the management of the universe, and that the evils that now exist are yet to be compensated for. No sociologic dreamer or scientific thinker has worked out—either on the basis of man's present organization or even on that of his future superior organization—a social system that will entirely do away with the difficulties that now surround him.

GYNECOLOGY. A Text-Book for Students and a Guide for Practitioners. By William R. Pryor, M.D., Professor of Gynecology in the New York Polyclinic Medical School. 163 Illustrations in the Text. Cloth. Pp. 380. Price, $3.50. New York and London: D. Appleton & Co. 1903.

The author of this volume is a practical man, and "practical" is the characteristic element that is in evidence throughout the work. The work is neither elaborate nor comprehensive, but deals in a concise and practical manner with "those subjects which are strictly gynecologic and on which a professor of gynecology usually has to lecture." The author does not consider it "the province of a gynecologist to illustrate the findings of the microscopist or of the anatomist," consequently he does not present the histopathology of the various affections, but treats of them only from what may be called a practical clinical point of view. The well-known views of the author concerning the vaginal route, and particularly early drainage through the posterior cul-de-sac, in acute infections of the pelvic organs are clearly brought out. The chapter on fibroids is especially good. In reading the work one can not fail to learn many useful and valuable points, and to be impressed with the earnestness and clearness with which the author at all times expresses his views.

INFECTION AND IMMUNITY, with Special Reference to the Prevention of Infectious Diseases. By George M. Sternberg, M.D., LL.D., Surgeon-General U. S. Army (retired), Ex-president of the American Medical Association. Cloth. Pp. 293. Price, $2.00. New York and London: G. P. Putnam's Sons. 1903.

The public is more than ever before inquiring regarding the cause and prevention of disease, and asking what can be done by individuals to ward off-illness. The charlatan and quack understand this and prepare plenty of literature calculated to bring people to them. It is well, therefore, that there is also a constantly increasing literature on health matters for the sensible inquirer, written by honorable and scientific men, and which is calculated to help rather than to injure those who read it. Sternberg's book on infection and immunity is one of the latest to be added to this class of literature. While the book is written for the layman, it is none the less scientific and reliable. Each subject is presented with the view of giving known facts as such, and unproved theories for what they are worth. The subject is presented in two parts. In the first, infection and disinfection, natural and acquired immunity, antitoxin, etc., are considered. In the second part, infectious diseases are discussed, twenty in all, each being given a special chapter. The methods of propagation and the best means of prevention of each particular disease are considered, including also statistical, historical, and other data. The keynote of the book is that all infectious diseases are preventable diseases and that it is now possible to carry out preventive measures in practically all of them. The book is one that the physician himself can read with profit, but especially is it one that he can recommend to his patients.

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Modern Microscopy. A *Handbook for Beginners and Students.* Combining: 1. The Microscope and Instructions for Its Use, by M. I. Cross. 2. Microscopic Objects, How Prepared and Mounted, by Martin J. Cole, Lecturer in Histology at Cooke's School of Anatomy. Third Edition. Entirely Revised and Enlarged, to which is Added 111 Microtomes, Their Choice and Use. Cloth. Pp. 292. Price, $1.50. Chicago: W. T. Keener & Co. 1903.

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King's Manual of Obstetrics. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C. Ninth Edition, Revised and Enlarged. Cloth. Pp. 628. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co. 1903.

That this text-book has passed through nine editions is sufficient evidence of its having given satisfaction to the medical public. Some changes have been made. The chapter on puerperal septicemia has been for the most part rewritten, and the author has made use of the work of others, as he acknowledges in his preface. The book is well up to date, and is a reliable, though a brief, treatise on its special branch of medicine.

A Compend of Diseases of the Skin. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Third Edition, Revised and Enlarged. With 106 Illustrations. Cloth. Pp. 291. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co. 1903.

This third edition is practically the same as previous ones. We have stated our idea of the field in which quiz-compends are useful and, as such a work, this book is excellent. A great deal, of course, can not be expected in the portrayal of skin diseases by black and white illustrations, but these here given are fairly good.

Prostatic Hypertrophy, from Every Surgical Standpoint. By George M. Phillips, M.D., and Forty Distinguished Authorities. Edited and Compiled by S. C. Martin, Jr., M.D. Cloth. Pp. 176. Price, $1.75. St. Louis: Lewis S. Matthews & Co.

This little work consists of answers of numerous prominent surgical operators to a series of questions that were sent out by the editor and compiler, preceded by a brief sketch of the anatomy of the prostate and its physiology and pathology.

## Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

### Gonorrhea.

After reiterating the disappointments following the employment of drugs in the treatment of gonorrhea in former years, H. M. Christian, in *Med. Bul.*, states that the mistakes in the past in the employment of strong solutions of silver nitrate have been the cause of the production of the present valuable silver compounds, each containing a certain percentage of the salt, ranging from four to thirty per cent. In the author's opinion the best of these preparations is argyrol, it being the least destructive and irritating to the urethral mucous membrane. After treating fifteen hundred cases of gonorrhea with argyrol the author corroborates the statements that it is free from irritation, though used in solutions as high as twenty per cent.; the gonococci on and beneath the mucous membrane are rapidly destroyed; the amount of urethral discharge is rapidly lessened and the duration of the disease is cut short. Attention is called to the important fact that argyrol alone will not effect a cure, because there remains a catarrhal urethritis, after the gonococci have been destroyed, which demands a special line of treatment. He advises, in the early inflammatory stage, the following combination to relieve the subjective symptoms:

℞. Salol
Sodii brom.
Potass. bicarb. āā....................℥ss 15|
M. Ft. chart. No. xxiv. Sig.: One every two hours.

At the same time he orders a 5 per cent. solution of argyrol to be used by the patient, as an injection, three or four times daily, the solution being retained in the urethra for ten minutes. It is advisable for the patient to wash out the anterior urethra with several syringefuls of warm normal saline solution just before injecting the silver solution. The author recommends this line of treatment for the first three weeks. After the subjective symptoms have subsided the local treatment in some cases may be substituted by the internal administration of copaiba and sandalwood. During the stage of decline an astringent injection is required, in addition to the silver solution, to benefit the mucous membrane, consequently the argyrol solution should be used at night and morning and the following injected three or four times during the day:

| | | | | |
|---|---|---|---|---|
| ℞. | Zinci sulph. | gr. x | | 65 |
| | Bismuthi subcarb. | ʒii | 8 | |
| | Liq. hydrastis (colorless) | ℥ss | 15 | |
| | Aq. destil. q. s. ad. | ℥iv | 120 | |

M. Sig.: Inject two drams three or four times daily; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Zinci sulph. | gr. xii | | 75 |
| | Plumbi acetatis | gr. xv | 1 | |
| | Liq. hydrastis | ℥ss | 15 | |
| | Aq. destil. q. s. ad. | ℥iv | 120 | |

M. Sig.: Two or three times daily as an injection.

At the beginning of the fifth week, when only the morning drop remains and the urine contains shreds, the argyrol solution should be used at night, and through the day one of the following combinations:

| | | | | |
|---|---|---|---|---|
| ℞. | Acidi carbol. | gr. iv | | 25 |
| | Zinci sulph. | | | |
| | Pulv. aluminis, āā | gr. xii | | 75 |
| | Aq. destil. q. s. ad. | ℥iv | 120 | |

M. Sig.: As an injection; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Cupri sulph. | gr. iv | | 25 |
| | Aq. destil. | ℥iv | 120 | |

M. Sig.: As an injection; or:

| | | | | |
|---|---|---|---|---|
| ℞. | Zinci chloridi | gr. iv | | 25 |
| | Aq. destil. | ℥iv | 120 | |

M. Sig.: As an injection two or three times daily.

### Pruritus Ani.

The treatment of pruritus ani, according to C. J. Drueck in *Surg. Clinic,* depends on the cause. When no apparent cause presents itself locally, then the general condition of the patient must be inquired into. Anemia or tubercular trouble, if present, must be corrected. The diet must be looked into and excesses cut off, such as coffee, meats, alcohol, spices and condiments. Any derangement of the stomach, liver or bowels must be corrected if possible. Syphilis will sometimes produce a pruritus of the anus and will be removed by a course of mercury and iodids.

The local treatment, according to the author, should consist in cleansing and keeping the parts dry, preventing friction and relieving sphincter spasm. In these cases it is recommended that the sphincter be gradually and thoroughly dilated, thus relieving the hypertrophy of the sphincter muscle and the hypersensitiveness of the anal mucous membrane. The local use of preparations containing opium must be used carefully on account of the possibility of contracting the habit and also because it has a tendency to produce a general itching. To give temporary relief the following combination is recommended by the author in preference to other soothing applications:

| | | | |
|---|---|---|---|
| ℞. | Camphoræ | | |
| | Chloratis hydratis, āā | ʒi | 4 |
| | Ung. diachylon | ℥i | 30 |

M. Ft. unguentum. Sig.: To be applied two or three times daily after bathing the part. Relief may also be obtained by brushing the parts with silver nitrate grains ten (.65) to the ounce (30.) of water. Pain will be produced for a short time only after this application. If thread worms are present, injections of lime water or salt water usually suffice, but in severer cases santonin may be given. When due to vaginal discharges, douches of a 1-2,000 bichlorid or a 2 per cent. lysol solution may be used twice daily. In infants, due to a lack of cleanliness, the following combination, applied locally, is preferred:

| | | | |
|---|---|---|---|
| ℞. | Acidi picrici | m. xlv | 3 |
| | Ung. hydrarg. nit. | ℥i | 30 |

M. Ft. ung. Sig.: Apply locally night and morning. General eczema is quite frequently the cause of this local condition. In such cases the tar preparations are of value. The parts may be bathed with a solution of alcohol and tar water. Or the following ointment may be used:

| | | | | |
|---|---|---|---|---|
| ℞. | Ol. picis liquidiæ | ʒii | 8 | |
| | Ung. belladonnæ | ʒi | 4 | |
| | Acidi carbol. | m. v | | 30 |
| | Adipis lanæ | ʒi | 4 | |

M. Ft. ung. Sig.: Apply locally after cleansing the parts.

The parts should be bathed frequently in hot water and tincture of green soap, to remove the thickened scales and to deplete the local circulation. In severe cases the following may be used:

| | | | | |
|---|---|---|---|---|
| ℞. | Potassii hydratis | gr. v | | 30 |
| | Aquæ | ℥i | 30 | |

M. Sig.: Apply locally. In the moist variety of eczema the following combination is of service:

| | | | | |
|---|---|---|---|---|
| ℞. | Thymol | gr. ii | | 12 |
| | Pulv. zinci stearat. | ℥iv | 120 | |

M. Ft. pulvis. Sig.: Apply locally.

In eczema marginata the author recommends that the parts be thoroughly cleansed, dried and an application of dilute sulphuric acid applied. This treatment, though producing pain temporarily, soon gives relief. The tincture of iodin may be used in its stead. In neurotic cases a narcotic may have to be given, such as bromid or chloral, to produce sleep.

### Drug Stimulation in Children.

For the purpose of stimulation in the treatment of disease in children the following preparations, according to Caillé, in *Post Grad.,* may be employed: Alcohol, camphor, strychnin, nitroglycerin, digitalis, ammonia. The cold douche may also be of service in effecting a reflex nerve stimulation. The heroic application of cold externally and in feeble children with poor circulation is, without doubt, detrimental. Consequently, whenever the child's extremities are cold and the temperature is high, a hot bath and enteroclysis is preferable treatment.

It is the opinion of the author that while alcohol can not build up the body it does serve as fuel for the body; at the same time it serves to stimulate respiration and consequently is of value in febrile diseases, and prolongs life. The amount of whiskey to be given in twenty-four hours may vary from dram one (4.) to ounces two (60.); Tokay wine, ounce one (30.) to ounces eight (240.), champagne, ounces two (60.) to ounces sixteen (500.). Mild stimulants, such as coffee, black tea and hot beef tea may be given in connection with or instead of alcohol. The following drugs may be used in the dosage given as stimulants:

Ether, drops two to six (.12-.40).
Camphor, grain one-fourth to one (.015-.06).
Infusion digitalis, one teaspoonful (4.00).
Spiritus etheris comp., drops two to ten (.12-.65), on sugar.
Aromatic spirits of ammonia, drops five to ten (.30-.65) in sugar water.

The following preparations can be given by the mouth, or subcutaneously:

Strychnin, gr. 1/50-1/30 (.0012-.0024).
Nitroglycerin, gr. 1/100-1/50 (.0006-.0012).
Caffein and sodium benzoati, grain i to iii (.06-.20) every three hours.

When the stomach is not disturbed the following combination is recommended by the author:

| | | | |
|---|---|---|---|
| ℞. | Pulv. camphoræ | | |
| | Pulv. digitalis, āā | gr. i | 06 |
| | Acidi benzoici | gr. iii | 20 |

M. Ft. chart. No. iv. Sig.: One every four hours in sweetmeats or chocolates.

Timely and judicious stimulation is very important in the treatment of febrile diseases in childhood, but overstimulation is cautioned against, remembering that the reserve power in children can, as a rule, be depended on, except in malignant sepsis.

Stimulation by drugs is non-indicated as long as the pulse is full and strong, and in fact is injurious, but when the pulse becomes weak and compressible, and before it becomes intermittent, stimulation should be resorted to.

### Bronchopneumonia.

In the treatment of bronchopneumonia in children, it is important to make the child as comfortable as possible, accord-to bring people to them. It is well, therefore, that there is also a constantly increasing literature on health matters for the sensible inquirer, written by honorable and scientific men, and which is calculated to help rather than to injure those who read it. Sternberg's book on infection and immunity is one of the latest to be added to this class of literature. While the book is written for the layman, it is none the less scientific and reliable. Each subject is presented with the view of giving known facts as such, and unproved theories for what they are worth. The subject is presented in two parts. In the first, infection and disinfection, natural and acquired immunity, antitoxin, etc., are considered. In the second part, infectious diseases are discussed, twenty in all, each being given a special chapter. The methods of propagation and the best means of prevention of each particular disease are considered, including also statistical, historical, and other data. The keynote of the book is that all infectious diseases are preventable diseases and that it is now possible to carry out preventive measures in practically all of them. The book is one that the physician himself can read with profit, but especially is it one that he can recommend to his patients.

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Modern Microscopy. A Handbook for Beginners and Students. Combining: 1. The Microscope and Instructions for Its Use, by M. I. Cross. 2 [illegible] How Prepared and Mounted, by Martin J. [illegible] ology at Cooke's School of Anatomy. Thir[illegible] ised and Enlarged, to which is Added 111 M[illegible] and Use. Cloth. Pp. 292. Price, $1.50. Chicago: W. T. Keener & Co. 1903.

This book has been entirely revised. It covers the subject of microscopy, mechanism and management of the microscope and its accessories, and to a very large extent the methods of microscopic preparation. It is not essentially a medical work, but is one that may be useful to the physician as well as to the general student of biology. The illustrations are numerous, and in many ways elucidate the points made in the text. The publisher's part of the work is in every way commendable.

King's Manual of Obstetrics. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C. Ninth Edition, Revised and Enlarged. Cloth. Pp. 628. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co. 1903.

That this text-book has passed through nine editions is sufficient evidence of its having given satisfaction to the medical public. Some changes have been made. The chapter on puerperal septicemia has been for the most part rewritten, and the author has made use of the work of others, as he acknowledges in his preface. The book is well up to date, and is a reliable, though a brief, treatise on its special branch of medicine.

A Compend of Diseases of the Skin. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Third Edition, Revised and Enlarged. With 106 Illustrations. Cloth. Pp. 291. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co. 1903.

This third edition is practically the same as previous ones. We have stated our idea of the field in which quiz-compends are useful and, as such a work, this book is excellent. A great deal, of course, can not be expected in the portrayal of skin diseases by black and white illustrations, but these here given are fairly good.

Prostatic Hypertrophy, from Every Surgical Standpoint. By George M. Phillips, M.D., and Forty Distinguished Authorities. Edited and Compiled by S. C. Martin, Jr., M.D. Cloth. Pp. 176. Price, $1.75. St. Louis: Lewis S. Matthews & Co.

This little work consists of answers of numerous prominent surgical operators to a series of questions that were sent out by the editor and compiler, preceded by a brief sketch of the anatomy of the prostate and its physiology and pathology.

## Therapeutics.

[*Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.*]

### Gonorrhea.

After reiterating the disappointments following the employment of drugs in the treatment of gonorrhea in former years, H. M. Christian, in *Med. Bul.*, states that the mistakes in the past in the employment of strong solutions of silver nitrate have been the cause of the production of the present valuable silver compounds, each containing a certain percentage of the salt, ranging from four to thirty per cent. In the author's opinion the best of these preparations is argyrol, it being the least destructive and irritating to the urethral mucous membrane. After treating fifteen hundred cases of gonorrhea with argyrol the author corroborates the statements that it is free from irritation, though used in solutions as high as twenty per cent.; the gonococci on and beneath the mucous membrane are rapidly destroyed; the amount of urethral discharge is rapidly lessened and the duration of the disease is cut short. Attention is called to the important fact that argyrol alone will not effect a cure, because there remains a catarrhal urethritis, after the gonococci have been destroyed, which demands a special line of treatment. He advises, in the early inflammatory stage, the following combination to relieve the subjective symptoms:

℞. Salol
Sodii brom.
Potass. bicarb. āā....................℥ss 15|
M. Ft. chart. No. xxiv. Sig.: One every two hours.

At the same time he orders a 5 per cent. solution of argyrol to be used by the patient, as an injection, three or four times daily, the solution being retained in the urethra for ten minutes. It is advisable for the patient to wash out the anterior urethra with several syringefuls of warm normal saline solution just before injecting the silver solution. The author recommends this line of treatment for the first three weeks. After the subjective symptoms have subsided the local treatment in some cases may be substituted by the in-

# Current Medical Literature.

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Titles of articles will be listed but once, though the articles appear later in other journals.

### New York Medical Journal.

*February 6.*

1 *A Brief Review of the Etiology of Yellow Fever. (To be concluded.) James Carroll.
2 *Observations on the Quantity of Day and Night Urine. Charles W. Edmunds.
3 *Infantile Bronchitis. E. M. Sill.
4 *The Sanitary Needs of Panama. M. L. Maduro.
5 *A Suggestion for the Rapid Calculation of Percentage Milk Mixtures: with Description of a Mechanical Device for the Instantaneous Calculation of Such Formulæ. Thompson S. Westcott.

1. **Yellow Fever.**—Carroll gives the history of the discovery of yellow fever down to the conclusive investigations at Havana.

2. **Day and Night Urine.**—Edmunds finds the passing of urine to be about .67 during the day and .33 during the night. There may be considerable variation even up to equal amounts, but this is exceptional without decided disease. He tabulates a study of 56 cases, including cases of croupous pneumonia, scarlet fever, typhoid and renal and cardiac disease, and finds that the changes in certain cases from or toward the normal ratio are but expressions of the changes which take place in the patient's renal and cardiac condition, and may be used as an index to the progress of the patient. His results also confirm the earlier writers' views as to the nocturnal polyuria occurring in renal and cardiac disease, and point out the value of this fact as a diagnostic sign especially in cardiac disease. He also suggests the possibility of tracing the course of a nephritis or of a cardiac disease by observing the changes in the relative amount of day and night urine for short intervals at a time. When drugs which cause diuresis are administered during the day they tend to restore the normal ratio.

3. **Infantile Bronchitis.**—Sill describes the course of bronchitis in infants, and emphasizes the necessity of frequent and careful examinations of the changes found in the milder forms which may almost at once change to the severe. He condemns the use of remedies designed to allay the cough, as the indication is to get rid of the excessive secretions and not to have them retained. The question as to whether the cough is excessive or not is dependent on the ability of the lung to rid itself of the secretions in its bronchial tubes.

4. **The Sanitary Needs of Panama.**—Panama appears to be in a bad condition, and, according to Maduro, the conditions which exist there are largely avoidable. There is no good water supply and but a single imperfect sewer. The house drainage and plumbing are poor. He would advise the tearing down of the rookeries in which the very poor live, transferring their occupants to better built, lighted and ventilated buildings, however cheap. Other needs are an organized street-cleaning department, the opening up of the dark narrow streets to sunlight and the filling in of old vaults and cisterns, the appointment of a well-equipped board of health and the exercise and control of the milk supply, the prevention of food adulteration, and, lastly, strict quarantine regulations.

5. **Milk Percentage.**—Westcott describes a method of computing the milk percentage by two revolving disks superimposed on each other in which are openings reading on a still lower disk. By the proper use of this device an almost instantaneous method is obtained of determining the quantities of 16 per cent. cream, whole milk and sugar required to make any of the usual percentage formulæ for any quantity of total mixture.

### Boston Medical and Surgical Journal.

*February 4.*

6 *Report of Cases of Trephining for Epilepsy. John C. Munro.
7 *Some Conclusions Based on a Study of 134 Cases of Calculus of the Ureter. With a Report of Three Cases. Benjamin Tenney.

6. **Trephining for Epilepsy.**—While he knows of no more discouraging field than the operative treatment of epilepsy by trephining, Munro still thinks that there is a certain class of unfortunates which can be helped in some way unexplainable. He does not, of course, refer to cases with recent palpable cranial depressions or new growths, but to those where there may be some unexpected lesion of the cortex, pia or dura, only demonstrated by operation or at autopsy. He thinks surgical relief for the cure of reflex disturbances from the viscera is rightly due the epileptic as much as to other individuals. In the cases reported several were temporarily relieved, but the outlook is not encouraging.

7. **Calculus in the Ureter.**—Three cases are reported and the subject generally discussed. Tenney sums up with the following conclusions as regards symptoms, diagnosis and treatment:

> Intermittent pain on one side, with varying amounts of red blood in the urine, are constant symptoms of stone in the ureter.
>
> Though the best means of locating stones, the *x* ray can not yet give evidence sufficient in itself to warrant us in operating or refusing to operate on certain cases.
>
> If a calculus starts from kidney to bladder, it is likely to catch within an inch of one of three places, all of which are accessible to the surgeon through extra-peritoneal openings.
>
> A single calculus is the rule, but the exception occurs, according to these cases, about once in eight times.
>
> The opening in the ureter or kidney pelvis for removal of the calculus should be sutured if possible. Both sorts of suture materials have been used with equally good results, and wounds in both locations apparently heal equally well. The recovery is only delayed if sutures are not used.
>
> A calculus in the ureter is a menace not only to health, but to life, and its removal is an operation of low mortality, provided it is undertaken before secondary changes appear in the kidneys.

### American Medicine, Philadelphia.

*February 6.*

8 *Purinemia: A Clinical Study. Reynold W. Wilcox.
9 *The Life-study of Patients, or the Biographic and Multiple Biographic Method of Discovering Medical Truth. George M. Gould.
10 *Morton's Painful Disease of the Toes. Walter G. Stern.
11 Abscess of the Liver, Caused by Distomum Sinense of the Intrahepatic Bile Ducts. Thos. L. Rhoads.
12 *Some Observations on the Occurrence of Nephritis in Infancy. Charles C. Biedert.
13 *Myxedema Complicated with Diabetes Mellitus Occurring in Two Children. Effect of Thyroid Extract on Both Diseases. Remarks on the Pathogenesis of Diabetes. Alfred Gordon.
14 Medicus et Medica. (To be concluded.) Helen MacMurchy.

8. **Purinemia.**—Wilcox considers that endogenous uric acid is chiefly concerned in gout and purinemia. The uric, as well as the phosphoric acid excretion is merely an index of retrograde metamorphosis of the body nucleins. Since the endogenous uric acid is independent of the presence of animal food in the diet, the patient should be limited only in quantity in order to reduce the intake to the organism's needs. The part played by the liver in gout is a purely negative one; it is unable to act as a poison filter. The keynote to the treatment lies in first limiting all toxic influences and formation of toxins, particularly in the alimentary canal, in order to minimize the retrograde metamorphosis of the body nucleins, preventing the absorption of toxic material and promoting its elimination.

9. **Eyestrain, Etc.**—This article by Gould is a general review of his series of clinical studies of the cases of Carlisle, Browning, George Eliot, Parkman, Wagner and others. He insists on the importance of bringing a large number of clinical life histories into comparison and producing, as it were, a composite photograph of the complete pathologic findings. This method, he claims, applied to his subjects previously discussed has yielded unexpected discoveries, and demonstrated a unity of cause and of diverse symptoms that was wholly unforeseen. Eyestrain is the great secret in all these cases. It has an irritant action on the nervous system, and is responsible for the manifold ailments of the illustrious characters he has described, the nervous irritability, the restlessness and the call for muscle action, etc., which was so marked in these cases and which relieved them temporarily. The necessity for systematic re-examination by specialists of all the bodily organs and functions throughout life is emphasized. Besides the scientific values of such repeated examinations, they would often reveal pathologic conditions and trends of profound value to individuals and families.

10. **Morton's Disease of the Toes.**—This disorder, the existence of which is denied by the French school, is explained

flexion and adduction of the foot. The value of the strap (stirrup) splint of plaster of paris in the treatment of Pott's fracture is also specially insisted on.

### St. Louis Medical Review.

*February 6.*

28 Report of Two Cases of Continuous Hot Water Irrigation in Pelvico-abdominal Sepsis with Remarks. Jabez N. Jackson.

### Cleveland Medical Journal.

*January.*

29 *The Clinical Relations of Stomach Disorders in Diabetes. John P. Sawyer.
30 Observations on Dementia Precox. William H. Pritchard.
31 General and Special Methods in the Postmortem Examination of the Brain and Spinal Cord. Walter H. Buhlig.
32 The Passage of an Open Society Pin Through the Intestinal Canal of an Infant Nine Months Old. H. D. Peterson.

29. **Stomach Disorders in Diabetes.**—Sawyer reviews the opinions and gives experiences with cases of diabetes in which gastric lavage and other methods were employed with remarkable results. He feels justified, on the basis of clinical experience, to hold that instead of regarding stomach disorders as of trifling importance due to sugar in the blood and to be regarded lightly, stomach affections are in many cases likely to afford a point of attack by which a degree of relief from distressing symptoms and the prolongation of life and efficiency may be secured better than by general indifference to the significance of these disorders in diabetes.

### New Yorker Medicinische Monatschrift.

*December.*

33 *Speichelsteine. (Salivary Calculi.) G. Schirmer.
34 *Ein Beitrag zur Behandlung des Asthmas. (Treatment of Asthma.) Carl F. Kremer.
35 Der Nutzen der Formalin-Lampe "Hygiea," insebesondere bei Keuchhusten. (Use of Formalin Lamp, Especially in Pertussis.) Dr. Sembritzki.

33. **Salivary Calculi.**—Schirmer describes these formations and speaks of the value of the *x*-ray in their diagnosis, though it has been decried by some recent writers. He gives illustrative cases of its use. With the diagnosis made, of course, the only treatment is operation. This should be done, as a rule, by way of the mouth; sounding of the duct is unnecessary. It is best to go directly to the foreign body and scoop it out with a spoon. Salivary fistula in the mouth is of no importance.

34. **Asthma.**—Kremer speaks favorably of the use of atropin in this disorder, recognizing, of course, the value of ether, amyl nitrite, nitroglycerin, etc., for the attacks; also morphin subcutaneously and the necessity for care as to hygiene, diet, etc. In his cases he begins with 1/120 gr. of atropin as near the beginning of the attack as possible, injecting it subcutaneously two and seldom three times in the twenty-four hours. He says by this treatment the generally long-lasting painful attacks will be quickly relieved and the exhaustive cough cease. Bronchial catarrh is favorably influenced, the emphysema disappears and the condition of the patient, mental, etc., rapidly improves.

### Colorado Medicine, Denver.

*January.*

36 Osteo- and Rheumatoid Arthritis. B. C. Leavitt.
37 Cases of Congenital Dislocation of the Hip. Geo. B. Packard.
38 Incipient and Acute Insane. Recoverability and the Factors Therein. J. E. Courtney.
39 *The Treatment of Neurasthenia. Howell T. Pershing.
40 Tetanus Cured by Injecting Antitetanic Serum Into the Brain. I. B. Perkins.
41 Imperforate Anus with Vulvar Opening. Walter A. Jayne.
42 Radium. G. H. Stover.
43 Testing of Vision in Public Schools. Edward Jackson.
44 Testing of Hearing of Pupils in the Public Schools. Wm. C. Bane.
45 Tendon Losses. George W. Miel.

39. **Treatment of Neurasthenia.**—There is no specific for neurasthenia, according to Pershing. The resources for its treatment are limited to the use of remedies preventing loss of nervous energy, and prevention of emotional disturbances by reassurance and favorable suggestion; and inculcating the habit of muscular relaxation and repose, by limitation of work, prevention of toxic conditions, removal of peripheral irritations, reduction of cortical irritability by medicines, and securing sleep. Further, by remedies to increase the income of nervous energy by nutrition and drugs, as well as certain remedies used empirically, like hydrotherapy, electricity, massage, etc., whose action is complex or obscure. Emotional disturbances are the most serious causes of nervous weakness, and they can be helped by removal of the ideas which produce them, especially by voluntary suppression of motor reaction to small annoyances and anxieties and the cultivation of attitudes and actions which express serenity and repose. The prohibition of work is an obvious remedy, but in many cases it is advisable to keep the patient doing a reasonable amount and removing as far as possible every cause of exhaustion. The relative importance of work and worry as causes must be carefully considered in every case, and everyone should cultivate some occupation to crowd out inopportune thoughts. Pershing finds the uric acid diathesis a very frequent complication of neurasthenia, and, therefore, to be met. Intestinal indigestion is another, and the excessive use of alcohol can only aggravate the condition. Tobacco is a milder sedative and can sometimes be allowed, though many do badly with it. The pain and annoyance due to disease in any part of the body may be a contributing cause, and even when shielded from direct irritating influences they can not always be excluded, hence the advisability of lowering the sensitiveness and irritable weakness of the cerebral cortex. Codein and opium in small doses are suggested, together with other remedies, such as strychnin and laxatives taken at different times, the patient being strictly prohibited from having any knowledge as to the ingredients of the prescription and the size and frequency of the dose of opium. The latter is only a last resort and should not be prescribed when it is not absolutely necessary. Sleep should be secured as far as possible without the use of hypnotics. When one is used it should be omitted every second or third night, and altogether discontinued as soon as possible. Food should be abundant and taken at short intervals, rich in nitrogenous and phosphorized articles, but any anxious attention to the diet does nothing but harm. Strychnia and small doses of calomel and intestinal antiseptics are often of service, but the main thing is that the patient should eat without apprehension. Pershing speaks unfavorably of the use of phosphorus compounds for sustaining the nervous energy. Iron, arsenic and strychnia are sometimes useful. Such remedies as electricity, hydrotherapy and massage he places last because he considers them of least importance. Any or all of them may be used, especially for their physiologic effect, as an adjunct to other remedies. The real difficulty in treating neurasthenia is not to get remedies that may be used, but to select and make effective a combination which best suits the particular patient. We must select and emphasize some methods and ignore others. For some the Weir-Mitchell rest cure is advisable and to others it may do harm.

### American Journal of Obstetrics, New York.

*January.*

46 *Tarnier's Principle of Forceps Rotation in Occipito-posterior Positions. W. Reynolds Wilson.
47 Tuberculosis of the Female Genitalia and Peritoneum. (To be continued.) John B. Murphy.
48 *Fetal Heart Murmurs in Gravida with the Report of a Case. Horace G. Wetherill and J. N. Hall.
49 *Supravaginal Amputation for Fibroid Tumors. Herman E. Hayd.
50 *Movable Kidney with Secondary Cyst Formation, Resembling Ovarian Cyst. Rufus B. Hall.
51 The Chlorin Technic. Douglas H. Stewart.
52 *Veratrum Viride in Surgical and Obstetric Practice. Chas. L. Bonifield.
53 *Operations in Imperative Surgery in Private Houses: A Demonstration of Surgical Technic. Willis G. MacDonald.
54 Conservative Surgical Treatment of the Uterine Adnexa. Augustus P. Clarke.
55 *The Palliative Treatment of Cancer of the Cervix Uteri, with Report of Cases. Walter B. Chase.
56 *Abdominal Versus Vaginal Hysterectomy. John B. Deaver.
57 Remarks on Microbial or Mycotic Cystitis in Women. George T. Harrison.
58 *The Pelvic Musculature in Disease. Hugo O. Pantzer.

46. **Forceps Rotation.**—Wilson describes the mechanism of artificial rotation of the head in the occipito-posterior position, and remarks that the error in attempting to favor rotation of the head by the forceps by the usual method lies in the preconceived idea that in order to rotate the blades concentrically with the axis of the pelvis it is necessary to rotate the handles on their long axis. Tarnier has shown the dangers of this method, and that the blades will describe a cone of rotation,

the base of which is in the pelvis, and its diameter greater than the pelvic cavity. He recommends as a substitute for this the rotation of the handles in such a way as to permit them to describe a wide circle of revolution, leaving the tips of the blades as a fixed point. The mechanism of this is illustrated by Wilson, who remarks that the maneuver can be carried out as successfully with the Tarnier or Sympson forceps as with the ordinary obstetric forceps.

48. **Fetal Heart Murmurs.**—Wetherill and Hall report a case in which the fetal heart murmur was diagnosed before birth and attributed to *congenital pulmonic stenosis.*

49, 50 and 52.—See abstract in The Journal, xli, p. 980.

53.—Ibid., p. 981.

55. **Cancer of the Cervix.**—The method developed by Byrne of treating cancer of the cervix with the thermocautery is described here by Chase. The objections to the powerful chemical caustics are the pain they produce and the difficulty of limiting the area of destruction, but it is quite exceptional for the patient to suffer pain after the use of the thermocautery, provided the mucocutaneous surfaces are not seared or burned. He usually finds it easy to protect the vaginal surfaces by the use of strips of asbestos paper of proper size. With large areas of ulceration the curette may be first used, and may cause considerable hemorrhage, but this is controlled by adrenalin or pledgets dipped in dilute acetic acid, applied with pressure. After this the cautery knife is applied at a dull red heat until the surfaces are thoroughly charred. The after-dressing consists of a 5 per cent. iodoform gauze, reapplied daily, after cleansing of the parts with peroxid of hydrogen. Great gentleness in manipulation is necessary, and the use of the bivalve speculum should be avoided. The Sims speculum and the Sims position are usually the best, the only exception is where the posterior vaginal wall is involved. The slough usually separates in one to two weeks. Dressing should be daily until healing follows, or, should it fail, the part should be kept as aseptic as possible. As in granular surfaces generally, the recognized healing power of nitrate of silver must not be forgotten. In some cases the thermocautery may have to be repeated at intervals of several months. He gives cases illustrating the results of treatment, and remarks that this method is not suggested to supersede radical treatment, but rather as applicable in postoperative cases on recurrence, in cases which have passed the stage for successful attack, or if the patient refuses heroic treatment.

56. **Hysterectomy.**—Deaver favors the abdominal route as offering increased space for manipulation, greater security against hemorrhage and less chance of injuring the ureters. He does not think it necessary to dissect out the iliac glands, as the additional mortality from the operation is not balanced by the lessened liability to recurrence. His technic is that of others, with slight modifications.

58.—See abstract in The Journal, xli, p. 980.

## Annals of Surgery, Philadelphia.

*January.*

59 *Removal, After Suprapubic Cystotomy, of the Prostate and of the Prostatic Urethra for Senile Enlargement of the Prostate. B. G. A. Moynihan.
60 *Intestinal Perforation in Typhoid Fever. Richard H. Harte and Astley P. C. Ashhurst.
61 The Mixed Tumors of the Salivary Glands. (To be continued.) Francis C. Wood.
62 Excision of Tuberculous Mass from Liver. Robert R. Rome.

59. **Removal of the Prostate.**—During the past two years Moynihan has operated on 12 cases for removal of the prostate and the prostatic urethra. His first operation was done in 1901, and was in a measure accidental. He was somewhat fearful that the ultimate issue of the operation would be unfavorable, but the results were good. The operation is performed suprapubically, a provisional stitch securing the opened bladder to the parietes on each side; the prostate being pressed upward by rubber-gloved fingers in the rectum, while the stripping is done with the finger of the other hand through the suprapubic opening. The operation is an easy one if done under proper conditions. The catheter is passed after the removal of the organ, and the bladder freely flushed with hot, sterile saline solution or a hot 1 per cent. solution of carbolic acid. When the fluid returns almost clear, a large rubber tube is passed into the bladder, and a couple of stitches introduced into the wound. There are often severe paroxysms of pain for a few hours after the operation, but they are relieved by morphin. At the end of forty-eight hours the tube is removed from the bladder, and the patient allowed to sit up with a bed rest. On the fourth day and each succeeding day a catheter is passed and the bladder freely washed with dilute carbolic acid lotion. On the seventh day the catheter is tied in and a drag placed on the suprapubic wound, which is removed every morning and the bladder again flushed. The catheter is not removed for five or six days; a new one is then introduced. The patient is allowed to get up and sit in a chair at the end of the first week if he is a feeble old man. The urine ceases to come through the wound about the end of the third week, and at the end of the fourth or occasionally not until the end of the fifth, the patient is passing urine spontaneously at natural intervals and the wound is entirely closed. If there has been a cystitis, he orders urotropin or helmitol, 10 to 15 gr. doses three or four times daily. He tabulates his twelve cases.

60. **Typhoid Perforation.**—Harte and Ashhurst's review is complete. They consider that perforation occurs in an average of about 2 per cent. of cases. They analyze statistics as to location. In over 73 per cent. of 190 cases where the site was mentioned, it occurred within twelve inches of the cecum and in only 4 cases more than three feet distant from the ileocecal valve. The authors conclude that operation rarely hastens death, and the proportion of cases that finally left the surgeon's hands well was 20 per cent. The rarity of recovery without operation does not justify any other course than laparotomy. General anesthesia is usually justifiable, and rapidity of operation is important. The incision is best made to the right of the median line, over the cecal region, and need not average more than four inches, though with very fat abdominal walls it may have to be extended from the edge of the ribs to the symphysis. The authors prefer the incision through the outer half of the right rectus muscle; it is straight, simple, avoids better the deep epigastric artery, and the cecum is more readily located. Excision of the ulcer they consider useless and harmful. Black silk is the best material for intestinal suture. They usually prefer a row of mattress sutures parallel to the long axis of the gut, crossing the longitudinal Peyer's patch at right angles. A second row of Lembert sutures, likewise applied longitudinally, but continuous, is also employed, and these are usually sufficient. They avoid sutures transverse to the long axis. The toilet of the abdominal cavity should be thorough to combat the peritonitis, and a large tube half an inch in diameter, with multiple perforations, should be introduced through the wound, a rubber tube and a funnel being attached to its outer end, and through this should be poured gallons of hot solution. The success depends more on the quantity than the quality. The temperature should be at least 110 F. The tube should be carried around to the various parts of the abdomen so, as to thoroughly irrigate every portion, and the douching continued until the return fluid is clear. Drainage is necessary in nearly every case. They prefer gauze drainage, but see no advantage in the iodoform or medicated gauze. Hyperdermoclysis or intravenous infusion is wise. Nourishment must be given, but all food by the mouth avoided as long as possible. After twenty-four hours a teaspoonful of hot water may be given by the mouth every ten or fifteen minutes, but no food until the third or fourth day at least, nutritive enemas being continued. After the third or fourth day the surgeon should begin to think of removing the gauze drains, but there is no hurry, and they can be allowed to remain longer if there is any doubt. They should be well moistened with salt solution or hydrogen peroxid and given time to absorb it, and the utmost gentleness be used in removing them. When the gauze has been removed it requires nice judgment to know how much to replace; a residual abscess on the one hand and slowness of healing on the other, are to be avoided. A fecal

136 Diagnostic Significance of Enlarged Spleen. Leroy Crummer.
137 The X-ray in Treatment of Malignant Diseases. John P. Lord.
138 Treatment of Acute Pelvic Inflammation. Palmer Findley.
139 Indications for Operation in Acute Pelvic Inflammations. A. P. Condon.

### Mississippi Medical Record, Vicksburg.

*February.*

140 Ethics Again. B. F. Duke.
141 A Continued Fever Not Typhoid. R. Franklin Nimocks.

### Kansas City Medical Record.

*January.*

142 Infant Feeding. Tom Fields.
143 The Form of the Ureter from Paraffin Casts. Byron Robinson.
144 Solution of Adrenalin Chlorid in the Treatment of Shock and Hemorrhage. Harry H. Everett.

### Woman's Medical Journal, Toledo.

*December.*

145 Case of Pregnancy Following an Operation in Which Right Ovary Was Removed, Left Ovary Resected, and the Round Ligaments Shortened Intra-abdominally. Anna M. Braunwarth.
146 A Hexadactylic Fetus with Omphalocele Non-reducible, with Hydramnios; Report of Case. Emma L. Braunworth.
147 Pregnancy Complicated by Diabetes Insipidus; Report of Case. Alice Conklin.

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## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### Annales des Mal. Génito-urinaires, Paris.

*Last indexed XLI, page 286.*

1 (XXI, No. 12.) *Détails de technique dans l'application du "diviseur gradué." Interprétation des resultats. F. Cathelin.
2 Anatomie pathologique des cystites aigues. B. Motz and P. Denis.
3 Extraction d'un fetus de 3 mois de la cavité vésicale. B. Guisy (Athens).
4 (*No.* 13.) **Traitement des plaies du rein (kidney injuries).* A. Boari.
5 *Cystoscope rétrograde universel. F. Schlagintweit (Munich).
6 Prostatéctomie périnéale. Tédenat.
7 2 cas de perméabilité congenitale de l'uraque. B. Guisy.
8 Observation de cystocèle crurale chez l'homme. R. Sorel.
9 (No. 14.) *Diagnostic des calculs du rein et de l'uretère. F. Guyon.
10 *Curabilité de la tuberculose vésicale. B. Motz.
11 (*No.* 15.) Affections chirurgicales des organes *génito urinaires.* V. Sianogennsky (ten years at Ratimoff's clinic).
12 Dilatateurs à 4 branches de construction perfectionnée. A. Kollmann (Leipsic).
13 Portable Slab and Leg Rests, etc., to Take Place of Operating table. E. Loumeau (Bordeaux).—Plan opératoire portatif à volume réduit (remplaçant les tables à opérations).
14 (*No.* 16.) *L'ablation de l'urètre antérieur avec urétrostomie vaginale. F. Legueu and P. Duval.
15 **Les cystites chroniques. B. Motz and* E. Montfort.
16 Des interventions intra-vésicales avec le cystoscope du Pr. Nitze. Eynard.
17 Batteries or Storage Batteries. L. Imbert. Piles ou accumulateurs.
18 (No. 17.) **Traitement* de l'uréthrite totale blennorrhagique par l'ichthargan. (Oltramare's clinic, Geneva.) P. Rychner.
19 Considérations générales sur le traitement des inflammations blennorrhagiques. A. Lewin.

**1. Interpretation of Findings with Urine Divisor.**—Cathelin enumerates several points learned by study of the results of the use of his "intravesical graduated divisor." In 50 cases it demonstrated that the symptoms observed could not be referred to the kidneys, but were due to some neighboring organ. He found that cystitis did not render the urine turbid when the kidneys were sound and the urine was withdrawn at once. In 3 out of 12 cases of hematuria, each kidney emitted bloody urine. In 10 cases of movable kidney the proportion of urea was less in the urine from the much-displaced organ.

**4. Treatment of Wounds of the Kidney.**—Boari's experience in the clinic and in experiments on dogs has convinced him that the kidney is remarkably tolerant of injuries such as stab wounds. Surgical intervention should, therefore, be conservative. The most serious injuries are those in which the pelvis is involved, as repair proceeds less rapidly and effectually in the tissues of the pelvis.

**5. Retrograde Cystoscope.**—Schlagintweit's instrument has a small reflecting prism between the light and the lenses. This prism fits in the shaft of the cystoscope. After the instrument has been introduced into the bladder, the prism can be raised out of its bed to any height desired, and reflects into the lens the parts of the bladder interior not visible by direct inspection.

**9. Diagnosis of Calculi in Kidney or Ureter.**—Guyon comments on the remarkable tolerance of the kidneys and ureters for hard foreign bodies in contrast to their extreme sensitiveness to distension. Renal colics become valuable for the diagnosis of calculi when they are habitual and are unmistakably influenced by movement and repose. Calculi are liable to exist without causing pain on pressure or reflex pain. Hematuria induced by exercise is a valuable sign of a calculus, especially when accompanied by pains aggravated by the same factors.

**10. Curability of Tuberculosis of Bladder.**—Motz has witnessed 8 cases of complete recovery from a tuberculous bladder affection. One patient was curetted and 5 per cent. guaiacolated oil was instilled; another was treated with instillations of a 1/5,000 bichlorid solution. The others recovered without local treatment, after removal of the tuberculous kidney by nephrectomy or its exclusion by obliteration of the ureter. In 2 cases the affection was so severe that recovery had been considered hopeless. The urine contained abundant tubercle bacilli. No case of bladder tuberculosis should be considered hopeless after these experiences. The general condition should be improved by every possible means, and the fact should be borne in mind that tuberculosis of the bladder is very rarely primary. If the kidney is the primary source, its prompt removal will prevent reinfection of the bladder. Even an extremely severe bladder affection does not contraindicate nephrectomy in such cases. The bladder tuberculosis will probably retrogress, but no instance is on record of the cure of a clinically manifest tuberculosis of the kidney except by ablation of the organ affected. If the prostate and seminal vesicles are infected with tuberculosis they should be examined at brief intervals to discover a tendency to heal—which is a frequent occurrence. If not, and the lesions commence to soften, the irremediable destruction of the neck of the bladder should be forestalled by suppressing the focus at once and completely. His patients were 4 men and 4 women, the ages 15 to 45. The particulars of each case are detailed.

**14. *Ablation of Female Urethra.***—Legueu's patient was a woman of 63 with tuberculous lesions of urethra and bladder. The tumor in the urethra had been diagnosed as cancer and had been twice ablated. The anterior urethra was then removed to prevent further recurrence. The various steps of the operation are illustrated. The patient, like others of the same category in the literature, is continent, except when laughing or exerting herself.

**15. Chronic Cystitis.**—After discovery and removal of the cause and resistance to instillation of nitrate of silver, the surgeon should not hesitate to curette and cauterize through a hypogastric incision. During the entire course of treatment urotropin should be administered to protect the ureters and kidneys from possible ascending infection.

**18. Blennorrheal Urethritis.**—Rychner states that in 22 cases treated with ichthargan, every patient was cured who completed the specified course of treatment. He gives the methods. Internal dosage of the drug was useless.

### Revue de Gynécologie, Paris.

*Last indexed XLI, page 1563.*

20 (VII, No. 6.) *Sur une forme hypertrophique non-ulcerèuse de tuberculose de la vulve. P. Petit and X. Bender.
21 *Les uterus doubles. L. Ombredanne and A. Martin.
22 *Kystes hydatiques du ligament large et du grand épiploon. M. Savariaud.
23 *Choked Hernia. P. Nau.—L'engouement herniaire.
24 *Du traitement chirurgical des collections purulentes dans le lobe droit du foie (in right lobe of liver). H. Maasland (*Hague*).

**20. Tuberculosis of Vulva.**—The hypertrophied tissues in the vulva in the case described suggested elephantiasis, and the discovery of their tuberculous nature, with the presence of tubercle bacilli, was a surprise. Poeverlein has recently reported a similar case in his thesis at Munich. The patients were 31 and 49 years old, and the course of the affection was slow and chronic with no appreciable effect on the general health. Both cases were treated by extensive excision, repairing the defects as well as possible, and the immediate results were excellent.

21. **Double Uterus.**—There are seven types of a double uterus, as Ombredanne shows by diagrams and cuts of 2 cases personally observed. One belonged to the type in which both fundus and cervix are distinctly double, the other to the type in which the cervix of each uterus blends into a single large one. The literature is reviewed and the indications for operation on these deformities. Total hysterectomy is preferable to supravaginal amputation in such cases when surgical intervention becomes necessary for any cause. The only exception in case of bilateral annexitis would be if the broad ligament were found prominent, which is exceptional.

22. **Hydatid Cysts of Broad Ligament and Greater Omentum.**—Savariaud urges search for further tumors in operating on a hydatid cyst in the peritoneum of the Douglas cul-de-sac or the broad ligament. The latter rarely occur singly. He describes a case and extols the advantages of the abdominal route in operating on such cases.

23. **Choked Hernia.**—Nau analyzes 23 cases found in the literature in which a hernia had become obstructed by fecal masses; 5 in which the herniated loop had been choked by *helminths;* 3 in which a diverticulum was involved, and 4 of obstruction by a foreign body. The symptoms of obstruction of the herniated loop from these causes are milder than those observed in a strangulated hernia. The indolence of the tumor and the consistency of its contents are characteristic. Taxis must not be blind. By discriminating palpation it may be possible to differentiate the obstruction and massage it away in case the loop is absolutely intact. If not, treat it like a strangulation.

24. **Surgical Intervention on Right Lobe of Liver.**—Maasland has operated on 6 patients presenting an accumulation of pus in the right lobe of the liver. He is convinced that an individual with an abscess of the liver should be warned against living in a tropical climate. He has in several instances sent a nearly cured patient back to Europe, where the change of air completed the cure. If, however, the improvement encouraged them to return to the East Indies or other tropical clime, the suppuration recurred with increased intensity. Many cases are diagnosed malaria, but their lack of response to quinin differentiates them. Puncture of the liver is liable to be dangerous. One of his patients succumbed to hemorrhage into the abdominal cavity after the fifth puncture. Maitland and others have also published cases of fatal hemorrhage after puncture.

### Revue de Médecine, Paris.

*Last indexed page 132.*

25 (XXIII, Nos. 11-12.) *Ulcérations du duodénum liées aux affections du rein (connected with kidney affections). E. Devic and J. Charvet.
26 *La perméabilité rénale dans les néphrites brightiques. L. Bernard.
27 *Etude de la myélite typhique. J. Lépine.
28 Syndrome de Brown-Séquard et syphilis spinale. Ibid. One case.
29 *Etude sur la linite plastique. Fréquence probable de son origine post-ulcéreuse et de sa nature epitheliomateuse. L. Hoche.
30 *Valeur et signification de l'hyperchlorurie au cours des pleurésies tuberculeuses. E. Micheleau.
31 La réciprocité dans la pathologie. S. Laache.

25. **Duodenal Ulcerations in Bright's Disease.**—Devic and Charvet have discovered ulcerations in the duodenum at the necropsy of 12 subjects with Bright's disease. Nothing in the clinical course had suggested these ulcerations, except melena a few days before death in a single instance. They are evidently among the complications to be expected in advanced stages of chronic kidney affections, and are probably usually overlooked in the clinic and at the necropsy. There was concomitant scoliosis in 3 of the cases described. The ulcerations display a tendency to burrow deep, with no effort at repair.

26. **Permeability of the Kidneys in Disease.**—Bernard's conclusions of this comprehensive study are to the effect that chronic interstitial nephritis is characterized by an early and constant impermeability of the kidneys, which is compensated at first by polyuria. In epithelial nephritis, on the other hand, accompanied by its edema and albuminuria, the kidneys are permeable, at least in the more rapidly fatal forms. In the protracted cases the kidneys become less permeable in the second stage. This difference in the permeability in the interstitial and the epithelial forms is revealed by the changes in the freezing point of the blood. Further research is needed on the permeability of the kidneys in various kidney affections other than Bright's disease (urinary, cardiac, diabetic, etc.). It may compel a revision of the theories in regard to the pathogenesis of uremia, and also enable us to classify the symptoms of renal origin according to the functional disturbance which is engendering them. The application of the functional tests has already shown that the cardiorenal type may be separated into two groups, the cardiac and the nephritic group, each recognizable by the characteristic permeability. He regards cryoscopy and the methylene blue test as the most reliable measures for estimating the kidney functioning, and describes their application in 30 cases.

27. **Typhoid Myelitis.**—Lépine's patient succumbed in about six weeks after the first symptoms of typhoid fever. Evidences of paralysis of the legs were noted by the second week, progressing to paraplegia in a few days. The lesions found at the necropsy were those of an acute anterior poliomyelitis of the lumbosacral region, with central myelitis and lesions of the white matter and leptomeningitis. They were probably due to the typhoid toxins, as no bacilli were found in the parts. Reviewing the literature, he finds that this typhoid myelitis is not always, but usually, fatal. Even if the patient recovers, he remains exposed to the eventual consequences of the past toxic action, entailing later possibly sclerosis in patches, chronic myelitis or tabes.

29. **Plastic Linitis.**—Hoche relates the clinical course and illustrates the pathologic anatomy of 5 cases of fibrous infiltration of the areolar network surrounding the vessels of the stomach. They show that this plastic linitis may be merely a connective-tissue lesion, or a hybrid connective tissue and epithelium lesion, in which either may predominate. The term spastic linitis is general, and should be supplemented by some word descriptive of the type as he sets forth in detail.

30. **Hyperchloruria in Tuberculous Pleurisy.**—Micheleau has been studying the demineralization of the organism in the course of tuberculosis. He found distinct excessive elimination of the chlorids in the urine in 17 out of 22 cases of tuberculous pleurisy, especially marked during the period of absorption. The 5 cases free from hyperchloruria were those in which recovery was most rapid. His experience indicates that it may be accepted as a sign of the tuberculous nature of the pleurisy and also of the tuberculization of the organism.

### Berliner klinische Wochenschrift.

32 (No. 50.) When to Operate in Appendicitis? M. Jaffé (Posen).—Wann soll bei Perityphlitis operiert werden?
33 *The Höglauer Wave and Spring Baths. E. Meyer (Berlin).—Ueber Erfahrungen mit den Höglauer'schen Wellen und Quellbädern.
34 *Experimental Diagnosis of Tuberculosis of Kidneys. G. Salus (Prague).—Tierversuch und Nierentub., nebst einem Beitrag zur Kenntnis des Harnes Tuberkuloser.
35 *Ueber cyclische Albuminurie. Hauser (Berlin).
36 (No. 51.) *Transformation of the Pulse Into Musical Tones. Sommer (Giessen).—Die Umsetzung des Pulses in Töne.
37 Intermittent Kidney Insufficiency in Case of Arteriosclerosis. A. Landau (Warsaw).—Ueber die intermittierende-Niereninsuffizienz bei Arteriosklerose.
38 Acquired High Shoulder. P. Manasse (Berlin).—Ueber erworbenen Hochstand des Schulterblattes.
39 Skeletirung eines etwa 4-monatlichen Foetus im Uterus infolge von Fäulniss der Frucht bei Missed Abortion. H. Rosenkranz (Berlin).
40 (No. 52.) *Attempts to Inoculate Anthropoid Apes with Syphilis. C. Lassar (Berlin).—Ueber Impfversuche anthropoiden Affen.
41 *Die Indicationen zur Extirpation der Milz (of the spleen). Jordan (Heidelberg).
42 *Tuberculose und Gravidität. W. Hahn.
43 Ueber Bismutose als Darm-Adstringens. P. Cohnheim (Berlin).

33. **Artificial Wave and Spring Baths.**—Höglauer of Munich has devised a system of waves in the bath water, produced by the action of a wheel driven by electricity. Meyer has been trying these new wave and spring baths, as they are called, in the hydrotherapeutic treatment of neurasthenic and obese subjects and those with constipation on a nervous basis. The influence of the gentle massage induced by the commotion of the water had an unmistakable favorable action. Patients with rheumatic pains were also benefited by them. The water is forced up through a dozen openings in the double

bottom of the tub for the spring baths. Both forms are illustrated.

34. **Experimental Diagnosis of Renal Tuberculosis.**—Salus advocates subcutaneous inoculation of guinea-pigs with the sediment of the sterile, centrifugated urine as the best mode of confirming the diagnosis of a tuberculous renal affection. He found that the urine contained traces of albumin in 44 per cent. and formed elements in 51 per cent. of 27 cases of a known tuberculous process elsewhere than in the kidneys. There is also a possibility that tubercle bacilli might find their way into the kidneys from the circulation or diseased tissues without an actual tuberculous renal affection, consequently the discovery of abnormal conditions in the urine does not inevitably indicate a local kidney affection. It may, however, confirm the existence of a tuberculous lesion somewhere in the body.

35. **Cyclic Albuminuria.**—Hauser has had 14 cases under observation for years, and has become convinced that this condition is due to the relics of some preceding infectious disease still persisting in the kidneys. It is therefore a persisting, unhealed nephritis, and is especially prone to occur after scarlet fever. Treatment includes prolonged rest in bed, exclusive milk and vegetable diet kept up for a long time, copious diuresis by means of mineral waters to ensure the thorough rinsing out of the kidneys, with systematic training of the kidneys to accustom them to a gradually increasing amount of work. He was able to cure nearly all of his patients by this technic, but at the same time he warns that in a certain proportion of these cases the cyclic albuminuria is due to an absolutely incurable nephritis. Relapses are also frequent.

36. **Musical Pulse Register.**—Sommer describes and illustrates an apparatus that he has invented by which the sphymograph index works on a small, primitive wind instrument, emitting a constant musical tone. The variations in the pulse rate raise or lower the note, and with a corresponding tempo. By this acoustic method it is possible to detect and study irregularities in the rhythm better perhaps than by the other methods in vogue.

40. **Attempts to Inoculate Apes with Syphilis.**—Lassar reports that he repeated the experiments of Roux and Metchnikoff on a chimpanzee, striving to inoculate it with syphilis. Most of the points where the syphilis virus was introduced rapidly healed, and only on the brow two ulcers developed which slowly retrogressed after a few weeks. A papulous affection was also observed on the palms and soles and the animal shed some of its hair. It is possible that these results indicate an abortive form of syphilis, but Lassar thinks that considerable good will is required to accept them as such. In a second animal an ulcer developed which likewise bore considerable resemblance to the primary syphilitic lesion, as can be seen from the cuts.

41. **Indications for Removal of Spleen.**—The enlarged spleen of leukemia should never be removed, Jordan thinks, but under other conditions the prognosis of splenectomy is good. He has performed the operation in 7 cases, and all the patients but 1 recovered. In the 17 cases of Banti's disease in which the spleen was removed, 14 of the patients recovered. Splenectomy is justified in certain cases of malaria. The mortality is constantly diminishing.

42. **Tuberculosis and Pregnancy.**—Hahn regards pregnancy as a serious complication of tuberculosis, but thinks that after the fourth month there is nothing to be gained by induction of abortion in comparison with allowing the case to go on to normal term. Conception should be prevented in tuberculous women, but he does not advocate systematic interruption of a pregnancy.

### Centralblatt f. Bakteriologie, Etc.

*Last indexed page 275.*

44 (XXXIV, No. 7.) Zur Kenntnis der anaëroben Bakterien des Menschen. Zur Aetiologie des Gasbrandes (of gas gangrene). A. Ghon and M. Sachs.
45 La constitution du poison diphtherique. T. Madsen (Copenhagen).
46 Diplococcus intracellularis meningitidis (Weichselbaum) in Nose. Report of a Case without Meningitis and Review of the Literature. F. T. Lord (Boston).
47 Ueber die Aetiologie von "Ekiri," einer eigenthümlichen, sehr akuten, ruhrartigen, epidemischen Kinder-Krankheit in Japan (peculiar dysenteric disease in children). S. Ito.
48 Les epithéliomas parasitaires. F. J. Bosc.
49 Attenuation of Mammal Tubercle Bacillus by Passage Through Frogs. H. Herzog.—Die Abschwächung der Säugethiere-tuberkulosebazillen im Kaltblüterorganismus. (Concluded.)
50 *Composition of Blood at Different Ages.* H. Sachs.—Ueber Differenzen der Blutbeschaffenheit in verschiedenen Lebensaltern.
51 Ueber Complement-Bindung durch Organ-Zellen. E. Hoke.
52 *The Adrenal Gland and Its Active Principles in the Relations to *Cytolysins and Antitoxin Production.* A. C. Abbott.
53 Zur Theorie der natürlichen antibakteriellen Immunität. P. P. Müller. (Concluded.)
54 Zur Agglutination der Streptococcen. P. Moser and C. v. Pirquet. (Concluded.)
55 Untersuchung über die anatomische Wirkung einiger Organ-Extrakte. G. Ghedini.
56 *To Make and Keep Silk Threads Impregnated with Spores for Tests of Disinfection. K. Kokubo.—Ueber die Anfertigung und Aufbewahrung von Sporenseidenfaden für Desinfektionszwecke.
57 Behavior of Löffler Mouse Typhus Bacillus on the v. Drigalski-Conradi Culture Medium. Siebert.—Verhalten des L.'schen Mäusetyphusbaz, etc.
58 A Simple Method of Making Collodium Sacs for Bacteriological Work. W. D. Frost (Madison, Wis.).

52. **Active Principles of Adrenal Gland.**—Abbott found that the removal of the hemolytic receptors out of the serum of rabbits previously injected with adrenal substance from guinea-pigs, prevented any hemolytic action on the blood of these animals. The corpuscles in the blood of the guinea-pigs remained intact after removal of these receptors, while they were rapidly destroyed by the action of the whole serum. His research was published in this country last year.

56. **Spore Threads for Tests of Disinfection.**—Kokubo recommends to dry the threads at room temperature and keep them in a dark place, when they are ready for use at any time.

### Dermatologische Zeitschrift, Berlin.

*Last indexed XLI, page 1119.*

59 (X, No. 5.) *Relations Between Becquerel Rays and Cutaneous Affections. S. W. Goldberg and E. S. London (St. Petersburg).—Zur Frage der Beziehungen zwischen Becquerelstrahlen und Hautaffektionen.
60 Zur Histologie der Verruca senilis. F. Poor (Budapest).
61 Cord-like Phlebitis in Early Stages of Syphilis. E. Hoffman (Berlin).—Ueber strangförmige Phlebitis im Frühstadium der Syphilis.
62 Ueber Rein-Kulturen von Ulcus molle-Bacillen. F. Fischer (Berlin).
63 Ueber bovine Impf-Tuberkulose. O. Lassar (Berlin).
64 Iron Arch Light Versus Carbon Arc Light. G. Busck (Copenhagen).
65 (No. 6.) *Epidermolysis bullosa hereditaria.* Bettmann (Heidelberg).
66 Relations Between Psoriasis and Joint Affections. L. Lipman-Wulf.
67 Behandlung der chronischen Gonorrhoe mit Spülsonden (with rinsing sounds). A. Strauss (Barmen).
68 *Light Treatment After [illegible] yer (Copenhagen).—Lichtbehand [illegible]

59. **Radium Burns.**—A small box with a mica cover, containing 75 mg. of radium, was fastened on Goldberg's arm and left there for three hours. No effect was apparent until four days later when a red patch developed about the size of the box cover. This became transformed into a necrotic ulcer by the fourteenth day, spreading until it presented the aspect of a serpiginous ulcer, and four other ulcers developed at different points on the arm, passing through the same phases from the red patch onward. A similar patch developed further on the chin, groin and hand, terminating likewise in necrosis of the corium. The healing process commenced first in the later patches. At the date of writing, the first patch still presents an atonic ulcer, gradually healing and only half as large as it was at one time. The action of radium is proportional to its radio-activity and not to its bulk. Further experiments on animals showed that a lump of 75 mg. was much less effective than another weighing only 30 cg. The entire process runs an almost painless course. The exposure and all the subsequent phenomena were painless. The necrosis develops without fever, and the ulcer has a peculiarly torpid character. In 2 cases of ulcus rodens of the nose or cheek, treated by half-hour exposure to the radium once a week, the lesion gradually healed by a process of evident sclerosis. By the end of two and a half months the cosmetic results were most excellent. One of the patients, thus treated for a total of four and one-half hours, has nothing left of the ulcer except a lighter-colored patch of skin and slight depression. The

facts observed suggest that there are other rays involved besides the true Becquerel rays. The portability, easy dosage and remarkable localized action render this new therapeutic agent, the writers conclude, a pre-eminently valuable addition to the therapeutic arsenal.

68.—This was noticed editorially, page 469.

### Monatsschrift f. Geb. und Gynäkologie, Berlin.

*Last indexed XLI, page 1173.*

69 (XVIII, No. 1.) Ueber Syncytien, Plasmodien und Symplasma in der Plazenta der Säugetiere und des Menschen. R. Bonnet.
70 Histologische Untersuchungen über die Parametritis. O. Busse.
71 *Leucocyte Count in Gynecology. M. Dützmann.—Die Verwertbarkeit der Leukocytenbestimmung bei Erkrankungen des weiblichen Genital-Apparats.
72 Ein eigenartiger Fall von Blasentumor (bladder tumor). Berndt.
73 *Neuere Bestrebungen bei der Behandlung des Puerperal-Fiebers. A. Bennecke (Griefswald).
74 (No. 2.) *Das traubige Sarkom der Cervix uteri. H. Peham.
75 * [illegible] ‍kome im Corpus uteri. H. Keitler.
76 * [illegible] in Curetting Uterus. O. Küstner. [illegible] artien die Uterushöhle nach Perforation mit der Curette, mit Bemerkungen über Vermeidung und Therapie der Curettenperforation überhaupt.
77 Treatment of Displacement of Uterus and Vagina. J. Pfannenstiel.—Zur Diskussion über die Behandlung der Falschlagen von Uterus und Scheide.
78 Ueber die Einwirkung des Oophorin auf den Stoffwechsel von Frauen mit und ohne Ovarien (action of oophorin on metabolism). P. Mathes.
79 Radiogram of a Supposed Ovarian Cyst Showing Skeleton of Fetus. Brohl.—Ein selteneres Roentgenbild.
80 Ausgetragene Gravidität im atretischen Uterus bicornis bicollis, zugleich ein Beitrag zur Diagnose desselben. L. Fraenkel (Breslau).
81 Zur Pubeotomie nach Baumm. L. Gigli. Reply by P. Baumm.
82 (No. 3.) Ueber das maligne Uterus-Myom (Leiomyoma malignum uteri). [illegible]
83 Case of Ingrown [illegible] of Uterus After Credé Expression. [illegible] von angewachsener Plazenta und Uterusruptur nach Credé'schem Handgriff.
84 Zur Aetiologie der isolierten tiefliegenden Vagina-Verletzungen sub coitu. L. Friedmann (Cracow).
85 *Zur Radikal-Operation bei puerperaler Sepsis. R. Asch (Breslau).
86 *Zur Behandlung der puerperalen Sepsis. Rosenstein (Breslau).
87 Hygiene in Sexual Life of Woman and During Childbirth in Ancient Greece and Rome. J. Lachs (Cracow).—Die Hygiene im Geschlechtsleben der Frau, etc.

71. **Leucocyte Count in Gynecology.**—Dützmann reports 223 cases in which 2,000 counts were made. In 90 pus was revealed by this means when the probabilities were against its existence by other tests, even palpation in narcosis. He concludes from his experience that in cases of exudate formation with suppurative breaking down, the leucocyte count may impart invaluable information. It is also important for differentiation of suppurative and non-suppurative affections of the adnexa and also as a guide to the choice of the vaginal or abdominal route. Hyperleucocytosis in cases of myoma, carcinoma or tubal pregnancy is sometimes the only sign of an unsuspected accumulation of pus. The leucocytes do not increase in number in case of tuberculous suppuration and only slightly with gonorrheal. He found a marked hyperleucocytosis accompanying torsion of ovarian cysts with peritonitic lesions, but no pus. In sepsis the leucocyte count may sometimes possibly indicate the proper moment for intervention, as diminishing numbers show that the resisting forces are weakening. The leucocytes behave in eclampsia the same as in sepsis, which is additional testimony in favor of the assumption that it partakes of the nature of an infectious disease. The iodin reaction of the leucocytes in case of suppuration will sometimes confirm the diagnosis suggested by the leucocyte count.

73. **Treatment of Puerperal Fever.**—Bennecke's review of recent endeavors in the treatment of puerperal fever seems to justify the attempt to save life by radical surgical intervention in the rare very severe cases. The majority, however, respond sufficiently to internal medicine, with serum treatment and various chemical-biologic measures. The prospects for the latter are becoming more and more promising.

74 and 75. **Staphylomata in Cervix and Uterus.**—Peham's patient was a young nullipara who required repeated intervention for the removal of a number of long, grape-like, pedunculated tumors which proved to be sarcomata. Some of them grew to be as large as a child's head. She succumbed to anemia in the course of five years, at the age of 24. Keitler reports the removal of seventeen sarcomatous polyps from the body of the uterus of a woman of 54. The organ was removed later. Peham's case is illustrated and the literature reviewed.

76. **Prevention of Perforation in Curetting the Uterus.**—Küstner describes 2 cases in which the omentum had plugged and healed a perforation made by a curette. He advises dilating the organ well before attempting to curette it, which can all be done at one sitting. The curette should have a graduated scale on it so that the distance in which it is inserted in the uterus may be constantly under inspection. This is especially necessary when used after an abortion and in case of carcinoma of the corpus. When part of the ovum is still retained and the uterus is large and soft, the fingers had better be used instead of the curette. Especial care is necessary in cases that have been previously curetted by others. In case of carcinoma, perforation should be immediately followed by removal of the uterus, but under other conditions compelling intervention he opens the abdomen and sutures the perforation.

85. **Radical Operation in Puerperal Sepsis.**—Asch has performed the radical operation in 10 cases after failure of all other measures. All but 3 of the women recovered from their desperate condition. He reviews the various indications for radical intervention, remarking that in case of saprophytic infection the focus usually remains limited to the uterus. Such cases only exceptionally require extreme measures. In case of streptococcus infection, abdominal intervention with drainage through the vagina is justifiable in advanced stages when convinced that the organism is unable to cope with the infection unaided. Such conditions are most liable to occur after criminal abortion and detachment of the placenta. When the infection has spread and induced abscesses in the parametrium—generally in this case through some rent in the perineum—the evacuation of the abscesses through the vagina should be first tried, with removal of the uterus by the same route as a last resort. The most serious mode of propagation of the infection is by way of the circulation, inducing thrombophlebitis. The thrombosed veins should be removed with the uterus. His conclusions are based more on the findings in patients who have died unoperated, than on his surgical experience. He is convinced that some of the fatalities might have been avoided by surgical intervention even very late.

86. **Treatment of Puerperal Sepsis.**—Rosenstein is inclined to ascribe great value to the silver salts in the treatment of puerperal sepsis. He thinks that as testimony accumulates in favor of the harmlessness of collargol we shall feel justified in injecting it still more freely and that the results will be much better. The results of treatment with nuclein combined with saline infusion, as practiced at Schauta's clinic and recently published by Hofbauer, are even more promising. Their effect is principally to attract the leucocytes, and the results were remarkably favorable. He mentions formalin injections as requiring further confirmation. In conclusion, he relates the history of a severe case with one or two chills a day and spleen much enlarged. Improvement was marked after injection of 10 gm. of a 1 per cent. solution of collargol, followed by 2 similar injections. Under their influence the spleen rapidly subsided to normal size. The improvement under collargol was unmistakable in this as in a number of other cases in his experience. The 3 injections were made in the course of eighteen days.

### Virchow's Archiv, Berlin.

*Last indexed XLI, page 1504.*

88 (CLXXIV, No. 2.) Ueber Chorio-Epitheliome die ausserhalb der Plazenta-Stelle entstanden sind. O. Busse.—Two Cases of Chorio-epithelioma Developing Outside the Site of Placental Insertion.
89 Ueber die embryoiden Geschwülste der Keimdrusen und über das Vorkommen chorioepitheliomartiger Bildungen in diesen Tumoren (tumors in sexual glands). H. Steinert.
90 Ueber Adenom- und Karzinom-Bildung an der Ampulle des Gartner'schen Ganges. R. Meyer.
91 *Genesis of Blood Plates. P. Schneider.—Zur Frage der Blutplättchengenese.
92 Fall von acuter Leukämie (acute lymphatische) mit einem Schema für die Einteilung der Leukämien und Pseudoleukämien.

93 Experimental Production of Fat Synthesis in Surviving Organ. F. Fischler.—Ueber experimentall erzeugte Fettsynthese am überlebenden Organ, ein Beitrag zur Frage der Fett-Degeneration.
94 Zur Kenntnis der Wirkung der Purin-Substanzen. J. W. Hall (Stockholm).
95 Cryoscopy of Animal Organs with Special Regard to the Freezing Point of the Kidneys. Blanck (Potsdam).—Kryoskopie tierischer Organe, unter bes. Berücksichtigung der [illegible] der Niere.
96 [illegible] Injection of Adrenalin and Influence of Artificially Induced Fever. E. Aronsohn.—Die [illegible] nach Adrenalininjektionen und ihre [illegible] künstlich erzeugtes Fieber.
97 El[illegible] Hand als kongenitale Missbildung. R. Hadlich.
98 Reply to Martinotti: "Struttura della fibra muscolare striata in acromegalia." J. Schaffer.
99 Elastic Tissue in Liver in Infectious Diseases. T. Mironescu.—Zum Studium des elastischen Gewebes in der Leber bei Infektionskrankheiten.
100 Zur Frage der benignen Pylorus-Hypertrophie Cruveilhier's. A. Meinel.

91. **Genesis of Blood Plates.**—Schneider asserts that the blood plates are derived from the blood corpuscles, and are not distinct formations.

### Riforma Medica, Palermo.

101 (XIX, No. 51.) *Action of Sublimate on the Kidney. A. T. Gallerani.—Azione del sublimato sul rene.
102 Sugli anticorpi immunizzanti del siero di convalescenti di tifo e sul rapporto di questi con le agglutinine. A. Bonome and E. Ravenna.
103 *Ipoacidita urinaria e *fosfaturia apparente.* A. Campani.
104 *Wire Joints. G. Pascale (Naples).—Neoartrosi a sostegni metallici. (Commenced in No. 48.)
105 Sarcoma del mediastino ed acromegalia. E. De Silvestri.
106 (XX, No. 1.) *La cataforesi come metodo di cura locale nelle malattie di stomaco. L. Ferrannini (Palermo).
107 Una epidemia da colibacillo. A. Martinelli (Bologna).
108 Study of Bactericidal Action of Blood and Serum of Pigeons, Normal and Immunized Against the Anthrax Bacillus. S. Spangaro (Padua).—Intorno all' azione battericida del sangue puro, del sangue splasmato, del plasma e del siero dei colombi normali ed immunizzati verso il bacillo del carbonchio antrace.

101. **Sublimate Injected Into the Kidney.**—The direct injection of a solution of sublimate into the parenchyma of the kidney of rabbits causes a deposit of calcareous salts around the spot.

103. **Hypoacidity of the Urine and Apparent Phosphaturia.**—Campani thinks that the presence of the earthy prosphates in large amounts in the urine is frequently not an indication of phosphaturia, but merely of insufficient acidity. This hypoacidity sometimes coincides with puberty and with venereal excesses. The mineral acids, especially hydrochloric acid, are the best means of combating the condition.

104. **Wire Joints.**—Pascale illustrates a case of a new shoulder joint reconstructed with wire after extirpation of the head of the humerus on account of sarcoma. Also a wire hip joint, inserted on account of subluxation and badly consolidated fracture of the neck of the femur. He also reviews the experiences of others in this line, and concludes that there is a promising future for such operations. It is possible by this means to reconstruct a joint with loops of wire. They are perfectly tolerated by the tissues even when the excursions are quite extensive. The wire not only fastens the bones together, allowing normal function of the parts by the new joint, but maintains the normal outline of the parts and thus favors muscular function and prevents atrophy. It also promotes the formation of new bone and regeneration of the tissues, directing and shaping the neoformation according to the normal type. He finds platinum the best metal for the wire, as it is extremely malleable and resistant. He prefers a double wire rather than a single wire of the same strength and size. The loop should be introduced to stay permanently, with no idea of removing it later. He gives cuts of his patients, one standing on and flexing the leg in which the hip joint is one of these wire ones. It is almost impossible to detect any difference between the aspect or functioning of the two sides. The results of such operations to date, although the number is very limited, are strong testimony in their favor. The literature on the subject is reviewed.

106. **Cataphoresis as Method of Local Treatment of the Stomach.**—Ferrannini announces that the direct application of electricity to the interior of the stomach, after ingestion of certain drugs, has a remarkable action on the absorption of the drug, hastening and intensifying its effect on the system. He calls this "local medication by cataphoresis." He uses an ordinary esophagus sound through which a wire is passed, terminating at the stomach end in a metal knob and connected at the upper end with the positive pole of the galvanic current, the negative pole being a large electrode applied to the epigastrium. The intensity of the current was not allowed to surpass 5 *milliamperes*, and the duration of the application not longer than five to ten minutes. He used for the tests a solution of .5 gm. potassium iodid in 500 gm. of distilled water, and then examined the saliva to detect the appearance of iodin. A number of tests were made on various subjects, always before breakfast to ensure similar conditions in each, and with and without the electricity on alternate days, for purposes of comparison. The results varied in different individuals. In one, the iodin reaction was obtained in the saliva four minutes after ingestion of the iodid when the current was turned on, but in tests without the current the reaction did not appear *until the tenth to the twelfth* minute. In one subject whose absorption was poor, the reaction appeared under the cataphoretic action in fifteen minutes, while without the electricity, twenty-five to thirty minutes always elapsed before the iodin could be detected in the saliva. In the clinic he found that strychnin and other drugs taken in half the usual dose, dissolved in a pint of water and followed by the cataphoresis, rapidly displayed the desired therapeutic effect, and frequently in subjects previously rebellious to the drug. The effect was also more durable. One patient with anachlorhydria who had been in the habit of vomiting every day for eight years and who had been treated in vain with all known measures, including strychnin and electricity in other forms, was rapidly restored to health by strychnin, supplemented by the cataphoresis. Equally remarkable results were obtained with atropin and cataphoresis in cases of hypersecretion and hyperchlorhydria.

### Semana Medica, Buenos Ayres.

*Last indexed XL, page 135.*

109 (IX, No. 40.) El diagnostico de los embarazos ectopicos (extrauterine pregnancy). D. Decoud.
110. Medios para acelerar y provocar el aborto. S. Gache.
111 (No. 41.) La tuberculosis en la administracion de correos y telegrafos. J. Garcia.
112 Datos para la Materia Medica Argentina. J. A. Dominguez (Commenced in No. 26 and continued.)
113 (No. 42.) Inciertitud del cito-diagnostico en las pleuresias exudativas. J. Zubizarreta.
114 (No. 43.) Tests of Tick-Killers. J. Lignières.—Estudios sobre los productos destinados a destruir la garrapata.
115 (Nos. 44-46.) La pasteurelosis y la estrongilosis bovina. Ibid.
116 Nefrotomias, nefrectomias, nefropexias y uronefrosis. D. Decoud.
117 (No. 47.) *Pronostico de los quistes hidatidicos del cerebro L. S. Reggiardo.
118 (Nos. 48-50.) Efectos del alcoolismo en la delincuencia, morbilidad y mortalidad en la Republica Argentina. Committee report.
119 *(No. 51.) La operacion radical o vaciamiento petromastoideo. J. Correo.*
120 El Surra americano o mal de Cadera. F. Sivori and M. Lecler.
121 (No. 52.) Caracteres clinicos de las locuras simuladas (of feigned insanity). J. Ingegnieros. Also in No. 5 below.
122 La natalidad legitima e ilegitima. G. Carrasco. Statistical.
123 (X, No. 1.) New Design for Tube for Intubation. S. G. Madrid (Buenos Ayres).—Nuevo aparato del autor. Oportunidad de la intubacion.
124 (No. 2.) Estudio clinico de algunas neuralgias sintomaticas. B. M. de Ymaz.
125 *Preliminary Injections of Salt Solution as Preventive of Vomiting in Laparotomies. A. Villanueva.—Las inyecciones previas de soluciones salinas en la cirurgia abdominal.
126 *La creosota en altas dosis en la tuberculosis. A. Cordero.
127 (Nos. 3-5.) Estudio del mixedema congenito. J. A. Videla.
128 (No. 6.) Responsabilidad y temibilidad de los alienados delincuentes. P. L. Anaut.
129 *Rubio's Gluteal Reflex. New Sign of Hip Disease. O. Acevedo.—El signo de Rubio: reflejo gluteo.
130 Claudicacion funcional de las capsulas suprarenales. T. Suarez.
131 Quistes hidaticos del pulmon. R. Cabrera.

117. **Prognosis of Hydatid Cysts in Brain.**—Reggiardo gives numerous cuts of the findings in 3 cases of sudden death attributable to a hydatid cyst in the brain. *On this* basis and after analysis of the literature he concludes that death is inevitable in cases of a cyst inside a ventricle. The diagnosis of the intraventricular variety is suggested by the absence of localized symptoms, by the rapid development of the lesion, and by the extent of the paralytic phenomena. The prognosis

is also grave in case of periventricular cysts, but surgical intervention is indicated with some probability of success. The prognosis is still grave, but much less so in cases of paraventricular cysts, and intervention here should not be delayed an hour. As recovery in the latter case is possible, and as differentiation of the various forms is difficult, early exploratory intervention is justified in all cases, especially those with complex symptoms.

125. **Injection of Salt Solution to Avoid Vomiting in Laparotomies.**—Villanueva injects about 400 gm. of salt solution subcutaneously the day before he operates. In two years' experience with this measure he has found that it has a remarkable effect in reducing the tendency to vomit during or after the narcosis. He experimented on animals trying to discover a reason for this inhibiting action of the saline infusion, but was unable to discover the mechanism.

126. **Creosote in Tuberculosis.**—Cordero has been much impressed with the fine results attained in pulmonary tuberculosis by administration of large doses of creosote, part by the mouth and part by the rectum. In certain cases it is perfectly tolerated by the stomach and in progressive doses seems to display a direct and rapid action on certain forms of tuberculosis. He has given as much as 5 to 6 gm. a day by this dual route without inconvenience.

129. **Rubio's Gluteal Reflex: Sign of Hip Disease.**—The reflex mentioned is constant in case of incipient inflammation in or around the joint, but is never observed in hysteric or purely neuralgic affections. When percussion is applied with the fingers over the surface corresponding to the gluteus maximus, the gluteus and posterior muscles twitch as with an epileptoid tremor. The sign is most pronounced when percussion is applied at the point where the nerves pass through the sciatic notch, also along the course of the greater sciatic nerve. This phenomenon will invariably differentiate an inflammatory process from a purely nervous or hysteric affection. Acevedo has named this sign after the late Professor Rubio, as a tribute to his memory.

## British Medical Journal, London.

*January 30.*

132 *Suprapubic Prostatectomy. Thornley Stoker.
133 *Prostatic Enlargement and Its Treatment by Freyer's Method Gilbert Barling.
134 *Anatomical Criticism of the Procedure Known as Total Prostatectomy. Cuthbert S. Wallace.
135 *Notes on Myiasis. P. S. Lelean.

132. **Suprapubic Prostatectomy.**—Stoker's method is practically the same as that of Moynihan noticed in THE JOURNAL of February 20, ¶59, p. 559. He details the method, the use of the suture through the parietal walls and bladder at the suprapubic opening to prevent any perforation of the peritoneal sac and to keep the opening of the bladder accessible. In performing suprapubic cystectomy he says the endeavor should be to make a wound with its apex at the bladder and its base at the skin surface. As a rule, it should not be closed or sutured except by the solitary suture he employs. There is likely to be considerable clotted blood in the bladder two or three days after the operation. It is usually best to let this alone, as its presence seals the large veins about the prostatic area and limits the tendency to bleeding and septic absorption. The urine also rapidly disintegrates the clots, and they are usually soon gotten rid of without effort. He never uses more than the most gentle syringing for several days after suprapubic operations. He thus classifies prostatic enlargements:

> 1. A true hypertrophy of the gland without any interstitial growths. 2. The existence on and within the substance of the prostate of one or more encapsuled tumors, distinct from the substance of the gland proper, and either myomatous or adenomatous in structure. Both forms of neoplasm or one only of them may be present. 3. A mixed condition of true hypertrophy and interstitial growths of the second class. This is much the most common. The tumors may eventually reduce the prostate to a state of pressure atrophy, or cause it to become a mere capsule for adventitious growths. It is the latter condition which, in all probability, has given rise to so much dispute and uncertainty as to the true pathology of enlarged prostate.

133. **Freyer's Operation.**—This term is sometimes used for the suprapubic method introduced by Freyer and described by Barling. He explores the prostatic region with a Ferguson's speculum after opening the bladder. In the operation he differs from Stoker in advising that in the prostatic capsule the incision need only pass through the mucous membrane and not also involve the gland as Stoker recommends. The value of the operation is marked in young prostatic subjects and where vesical stone is a complication. He reports in detail a number of his cases, and concludes that it is possible to enucleate the prostate and that the prostatic urethra is almost invariably, if not always, removed with the organ. If it were left it would necrose from want of blood supply. Its removal does not cause stricture. The operation gives excellent results, often restoring the function of the bladder to an absolutely normal condition.

134. **Anatomic Criticism of Total Prostatectomy.**—Wallace's conclusions are that the usual form of prostatic enlargement is an adenomatous one and that adenomatous tissue may surround the urethra or form masses in the lateral parts of the organ, behind the urethra, or in all three parts. The parts removed may consist of adenomatous masses from the lateral parts or of an adenomatous formation completely surrounding the urethra. He thinks that there is always left behind a definite laminated envelope containing glandular tissue derived from the expanded outer portion of the organ and that the amount of envelope left on the surface of the tumor after removal depends on the depth at which the enucleating finger cleaves the envelope; that the rectovesicular fascia is not opened nor the prostatic plexus or veins injured. While it is possible to remove small adenomata from the central or lateral part of the prostate without extensively involving the urethra, yet this canal is removed *in toto* when adenomatous growths are extirpated in their envelope and the lateral walls come away adhering to the adenomata when these are of any considerable size. He suggests the use of the term "surgical capsule" to be applied to the envelope formed from the prostate by the expansion of the adenomata. It is a pathologic formation, and represents more than the outer non-glandular portion called the cortex by Mr. Shattock. Its presence causes the small amount of bleeding and absence of urinary extravasation. In fact, he says, in the so-called total prostatectomy the enucleating finger never passes outside the limits of the prostate.

135. **Myiasis.**—Some remarkable cases of dipterous parasite infection are recalled by Lelean. He describes a form of fly, parasitic in the human species, observed by him in northern Nigeria, and remarks on the difficulty of extirpating maggots in some cases. The vitality of some of them is such that they survived five minutes' immersion in pure carbolic acid.

## The Lancet, London.

*January 30.*

136 *Hysterical Skin Symptoms and Eruptions. Thomas D. Savill.
137 *Sanatorium Treatment of Pulmonary Tuberculosis. C. Theodore Williams.
138 *Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis. Arthur Newsholme.
139 Note on the Probable Mode of Infection by the So called Filaria Perstans, and on the Probability that This Organism Really Belongs to the Genus Tylenchus (Bastian). H. Charlton Bastian.
140 *A Contribution to the After-history of Gastric Ulcer. James W. Russell.
141 Notes on a Case of Otitic Cerebellar Abscess: Extradural Abscess: Trephining Middle and Posterior Fossæ; Recovery. Percy Jakins.
142 *The Efficient Treatment of Cardiac Failure. Alexander Morison.

136. **Hysterical Skin Symptoms.**—Savill describes seven different kinds of hysterical skin symptoms: General pallor, attacks of flushing, localized patches of congestion, dermatographia, acroparesthesia, erythromelalgia, urticaria, erythematous and hysterical exudates and localized ischemia; the first three are peculiar to hysteria, the other four are more frequent in hysterical than non-hysterical subjects, but he considers them expressions of vasomotor neuroses plus toxemia. Among the co-operating causes he includes toxins of gastro-intestinal origin, articles of diet, traumatisms, toxins of insects, etc. In conclusion, he remarks on the resemblance of the skin to the central nervous system in embryonic origin

and its pathologic resemblances to certain disorders, as syphilis, for example.

137. **Tuberculosis.**—Williams discusses the sanatorium treatment, giving the details as to construction, methods of exercise, disinfection, hydrotherapy, sun baths, etc., and discusses the results with tabulated statement of the experience of the German and Swiss sanatoria. He thinks the sanatorium treatment may be expected to produce great improvement in all but the very advanced cases and its educational value must never be overlooked. We must not be satisfied, however, with the sanatorium treatment, but endeavor to discover every weapon in our war against tuberculosis.

138. **Prevention of Tuberculosis.**—*Newsholme insists on the importance to the community and to the individual of diagnosis before the bacilli can be found in the sputum. He thinks that compulsory notification is certain to come, though there are strong reasons against forcing such a measure at once.*

140. **Gastric Ulcer.**—Russell studied 89 cases of gastric ulcer, tracing the history of 47, with recent particulars of 16. During the seven and one-half years covered by his inquiry the direct mortality was 2.1 per cent.; while 4.3 per cent. died from intercurrent disorders; 42.6 per cent. recovered (unless later history disproves it); 27.7 per cent. had but one attack and 14.9 per cent. recovered after one or more relapses; 6.4 per cent. can not be as yet classified as recovered or continuous and may eventually fall into either class; finally, 44.7 per cent. were suffering from stomach symptoms of more or less severity at the last report; 14.9 per cent. of these having repeated and definite attacks with intervals of immunity and 29.8 per cent. suffering almost continuous pain. He thinks the last group affords some justification for the plea for more frequent operative interference in persistent cases, always providing that the mortality can be kept low.

142. **Cardiac Failure.**—The use of digitalis in full doses is advocated by Morison in proper cases of cardiac weakness. He would give under favorable conditions in ingravescent cardiac failure 15, 20, 25 or 30 minim doses in the adult, at four hours' interval until a definite effect is produced on the action, force and capacity of the dilated and failing heart. This may require a continuous administration in such doses of the combined tinctures of strophanthus and digitalis until 200 or 300 minims have been taken. He thinks there is no unjustifiable risk in this rapid method of containing cardiac control provided it is used in suitable cases. Defects in the right heart alone or cardiac failure from purely pulmonary causes tend to deplete the left heart. The left ventricle of a fatal pneumonia, if the muscle has any native vigor, is often small and contracted. It is the left ventricle of asphyxia in which true cardiac failure plays only a secondary part unless the heart is otherwise degenerated. Here the digitalis group should be used with great care if at all. Such drugs, if they increase the ventricular systole, lessen the absorptive power of the left ventricle at the same time by decreasing its capacity. He speaks well of venesection in cardiac failure as a temporary expedient for urgent irrigation.

### Indian Medical Gazette, Calcutta.

*January.*

143 *Doctors as Civil and Political Officers. D. G. Crawford.
144 *Resisting Powers of the Larvæ of Culicidæ to Desiccation. E. Jennings.
145 Malaria: as Seen in the Andamans Penal Settlement. (Continued.) Ernest E. Waters.
146 *"Liver Chill" as a Factor of Disease in the Tropics. (Continued.) A. E. Grant.
147 Diphtheria in the Madras Presidency. J. W. Cornwall.
148 Report of a Small Outbreak of Cholera in 10th D. C. O. Lancers (Hodson's Horse) in June, 1903. E. A. C. Matthews.

143. **Doctors as Civil and Political Officers.**—Crawford gives an interesting list and the history of a number of prominent officers of the Indian medical service who have taken high positions in civil and political life in *that country* and in conclusion mentions others not in that service who have likewise been prominent, including General Wood of this country. The article shows the ability of medical officers to meet the demand of even the highest non-medical positions when required.

144. **Hibernation in Mosquitoes.**—The term hibernation hardly correct for the tiding of mosquitoes over the hot seas but it appears to Jennings that they have a power of getti into the mud in the larval state and there passing the peri inimical to their breeding. He has himself not been able keep mosquitoes alive long without food or water, but he d not see how they can survive in certain parts of India oth than in the way mentioned. He has been able to exclude t egg stage and thinks that the larval condition must be t form in which they survive.

146. **Liver Chill.**—Grant calls attention to the danger sudden chill after exercise or overheating and the relations *moisture and dryness* to the condition. Where the atmo phere is hot and dry the danger of chilling is lessened, t use of flannel underclothing is also a valuable precaution. H says only experience can teach European residents in India th conditions under which they are in danger of chilling.

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## Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sendin them. A selection from these volumes will be made for review, a dictated by their merits, or in the interests of our readers.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, with the Collaboration of Wm. Osler, M.D., Baltimore; John H. Musser, M.D., Philadelphia; Jas. Stewart, M.D., Montreal; J. B. Murphy, M.D., Chicago; A. McPhedran, M.D., Toronto; Thos. M. Rotch, M.D., *Boston*; *John G. Clark*, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Edmund Landolt, M.D., Paris, and Richard Kretz, M.D., Vienna. With Regular Correspondents in Montreal, London, *Paris*, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Vol. IV. Thirteenth Series, 1904. Cloth. Pp. 321. Price, $2.00 net. Philadelphia: J. B. Lippincott Co. 1904.

The Complete Medical Pocket-Formulary and Physician's Vade-Mecum: Containing Upwards of 2,500 Prescriptions, Collected *from the Practice of Physicians* and Surgeons of Experience, American and Foreign. Arranged for Ready Reference Under an Alphabetical List of Diseases. Also a Special List of New Drugs, with *Their Dosage*, Solubilities and Therapeutic Applications; Together with a Table of Formulæ for Suppositories; a Table of Formulæ for Hypodermic Medication; a List of Drugs for Inhalation: a Table of *Poisons, with Their Antidotes*; a *Posological* Table; a List of Incompatibles; a Table of Metric Equivalents; a Brief Account of External Antipyretics; Disinfectants; Medical *Thermometry; the Urinary Tests; and* Much Other Useful *Information*. Collated for the Use of Practitioners. By J. C. Wilson, A.M., M.D., Physician to the German Hospital, Philadelphia. Third Revised *Edition*. Leather. Pp. 268. Price, $1.75.; Thumb Index, $2.00. Philadelphia: J. B. Lippincott Co.

Diseases of the Nervous System. A Text-book for Students and Practitioners of Medicine. By H. Oppenheim, Professor of the University of Berlin. Translated and Edited by Edward E. Mayer, A.M., M.D., *Pittsburg*, Pa. Second American Edition, Revised and Enlarged. With 343 Illustrations. Cloth. Pp. 953. Price, $5.00 net. Philadelphia and London: J. B. Lippincott Co. 1904.

Transactions of the American Dermatological Association at Its Twenty-seventh Annual Meeting held in Washington, D. C., May 12, 13 and 14, 1903. *In Connection* with the Sixth Triennial Session of the Congress of American Physicians and Surgeons. Official Report of the Proceedings by Charles J. White, M.D., Secretary. Paper. Pp. 213. New York: The Grayton Press.

Transactions of the New York Academy of Medicine, 1896-1901. Semi-centennial Celebration. Anniversary Discourses, Presidential Addresses, Memorial Addresses, Wesley M. Carpenter Lectures, List of Papers Read at the Stated Meetings of the Academy. Officers of the Academy and of the Sections. Paper. Pp. 471. Printed for the Academy. 1903.

A Short Practice of Gynecology. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M.; Ex-assistant Master, Rotunda Hospital. Second Edition, Revised and Enlarged. With 223 Illustrations. Cloth. Pp. 406. Price, $3.75. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

Veterinary Studies for Agricultural Students. By Dr. M. H. Reynolds, B.S.A., D.V., M.D., Professor of Veterinary Medicine, University of Minnesota. Cloth. Pp. 246. Price, $2.00 net. St. Paul: Published by the Author. St. Anthony Park, Minn. 1903.

Eighteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Transmitted to the Governor, Nov. 28, 1902. Cloth. Pp. 1127. Wm. Stanley Ray, State Printer of Pennsylvania. 1903.

Report of the Commissioner of Education for the Year 1902. Volume II. Cloth. Pp. 1277. Washington: Government Printing Office. 1903.

Thirty-Fourth Annual Report of the State Board of Health of Massachusetts. Cloth. Pp. 623. Boston: Wright & Potter Printing Co. 1903.